SEPTEMBER, 1962 • 35¢

AMERICAN Cinematographer

Magazine Of Motion Picture Photography And Production Techniques

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EL 16

AMERICAN
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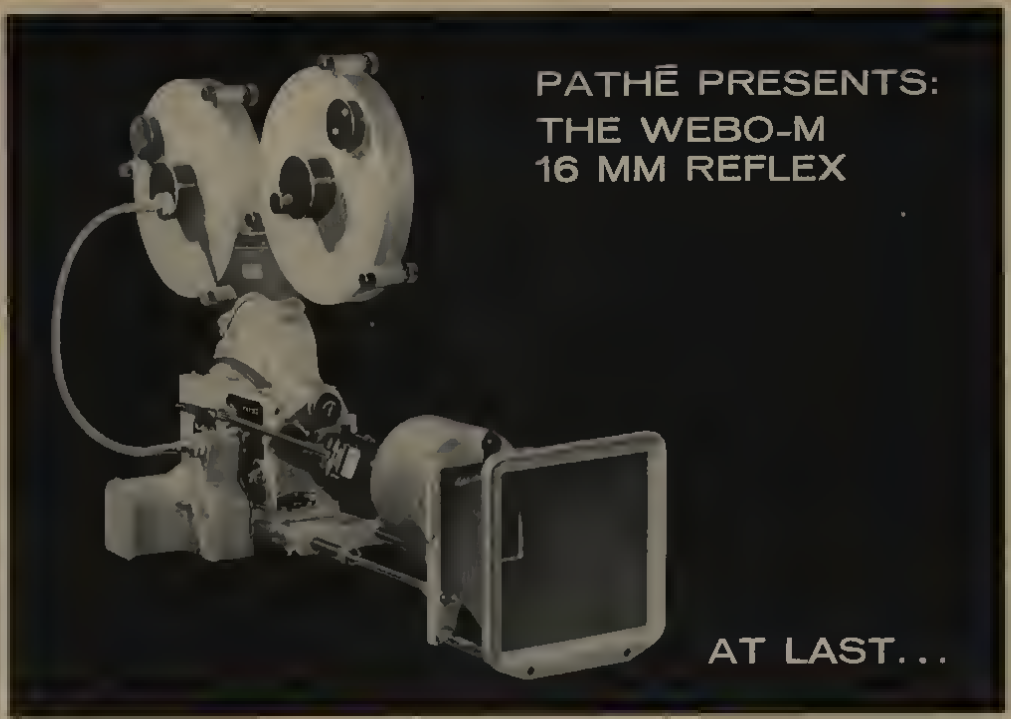
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PATHE

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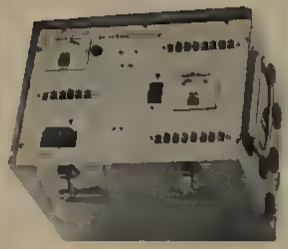
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Gaffer tape, 12 yard roll $ 1.95

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INDUSTRY NEWS

News briefs of industry activities, products and progress



IN MADRID last month to complete advance arrangements for creation of special effects for Samuel Bronsten's "55 Days at Peking," Lin Dunn ASC confers with camera crew beside the big Super Technirama-70 color camera on location

Film Effects Expands

Following his return to Hollywood from Spain where he completed negotiations for his company, Film Effects of Hollywood, to do special photographic effects for Samuel Bronsten's "55 Days at Peking," Lin Dunn, ASC, announced company has acquired 12 500 sq ft of additional stage space This will be devoted primarily to the production of 65mm special effects.

Film Effects of Hollywood is first independent organization to equip for producing 65mm/70mm effects and has the only printer in Hollywood for this wide screen size outside of the studios. This enables company to service independent film makers producing 70mm wide screen features, affording them services of outstanding specialists in the various branches of the special effects art. Dunn's staff includes such top experts as Cecil Love James Gordon, William Reinhold and Howard Lydecker. Dunn, an expert with more than thirty years' major studio experience, formerly headed special effects department of RKO Studios.

His company is presently producing an intricate comedy effects sequence for Stanley Kramer's "It's A Mad, Mad, Mad, Mad World!" currently in production in 65mm Super-Panavision and Eastman Color for release in Cinerama Involved was construction of miniature buildings, and photography of mad-cap dare-devil comedy routines that utilized the full range of photographic effects techniques

Being rushed to completion is equipment for 65mm background projection and sodium lamp traveling matte process work for forthcoming Cinerama productions in 65mm

M-R Debuts New High-Intensity Set Lamp

Late in July, before a select group of Hollywood Studio cinematographers and set lighting experts, Mole Richardson Company of Hollywood demonstrated the Titan, company's new super high intensity carbon arc lamp Using ultra high intensity carbons, the Titan burns 350 amperes Development is said to be achievement of company's aim to develop a carbon burning arc lamp operating at 350 amperes without the need for water cooling

"There have been plenty of arcs burning 350 amperes and more," a company official said, "but never before has it been attempted on an air-cooled basis. We consider the Titan to be the most powerful arc light ever used in the motion picture industry, insofar as amperage and light output is concerned It doubles the available light of the 'Brute'."

Mole-Richardson introduced the first Brute back in 1946 This was a 225 ampere unit Preceding the Brute were the M-R Type 90 120-ampere arc and Type 170 150-ampere arc Each new lamp, progressing from the Type 90 to the 170 and then to the present Titan 450 represents a doubling of light output, it is pointed out

Hyndman Elected E-K V-P

Donald E Hyndman, last month, was elected an assistant vice-president of Eastman Kodak Company Hyndman, who is manager of the company's professional motion picture film department, has been associated with Kodak since 1926 when he began his employment in the Kodak Research Laboratories In



Hyndman





"To convert intongibles into images— Du Pont Film . . ."

' TWILIGHT ZONE' is a thrill and a challenge," says George Clemens, A S C In 1960 he won the National Academy of TV Arts & Sciences "Emmy" for his work on it

This show succeeds because Producer Buck Houghton fulfills the creative sweep and subtle power of Rod Serling's imaginative writing "We're translating subtleties of thought and mood into light and shadow," says Clemens "For this exacting job I've come to rely, without question, on Du Pont 'Superior'* 2 film— and on the expert data and service that come with it"

These films—and technical data on them—are available from any of the Du Pont Photo Products sales offices that are shown on the right

* Du Pont's registered trademark for its photographic film

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INDUSTRY'S NEWS

Continued from Page 514

January, 1928, he went on a trip around the world for the company as manager of a cine processing department project Later in 1928 he worked in the cine processing department at Kodak Park and then returned to the research laboratories preparatory to joining the company's motion picture film department

Born in Denver, Colorado, Hyndman was graduated from the University of Denver with a B S degree in chemical engineering and did graduate study at the University of Rochester A fellow of the Society of Motion Picture and Television Engineers he has long been active in the society's work He served as vice president of the American Television Society in 1959 and is an associate member of the American Society of Cinematographers and of the Academy of Motion Picture Arts and Sciences He is the author of several scientific papers and of numerous publications on motion picture engineering

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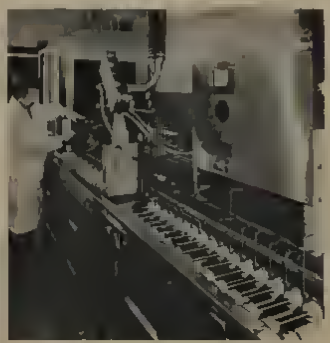
Winchester Elected to ASC

Ted Winchester, head of the Camera Department at Desilu Studios in Hollywood last month was elected to Associate Membership in the American Society of Cinematographers

•

Film Laboratory Adds New Service

Ektachrome Commercial and Ektachrome ER color films are now being processed daily by Southwest Film Laboratory, Dallas, Texas New 35-ft long 16mm color processor, pictured below, was constructed from Eastman Kodak Co plans and enables 16mm color film to be processed at three different speeds, with a top speed of 3000 feet per hour Precision automatic temperature control an elaborate system of warning lights, bells and buzzers, and automatic graph drawn records assure customers of safe handling of their films, according to the company.



VIEW OF 35 ft long 16mm color film processing installation at Southwest Film Lab Inc., Dallas



CINEMAGNETICS multiple magnetic sound dubber which records sync sound tracks on as many as eight 8mm films simultaneously

Magnetic Striping Service

Cine Magnetics, Inc New York, N Y. has acquired the magnetic striping facilities of Frederick F. Watson, Inc. Company specializes in striping 8mm and 16mm films, sync sound recording and magnetic sound track duping

A recent development of company president Everett Hall is multiple sound dubbing machine pictured above, said to be the only one of its kind in existence Machine will record sync sound on six 8mm prints at one time at a cost per print lower than individual print recording, according to company.

•

Anderson To Byron As Tech Director

James A. Anderson, for 34 years with Alexander Film Company has been appointed Technical Director of Byron Motion Pictures, Inc., Washington D C, 16mm film laboratory He will be in charge of quality control and of technical operations of Byron's B&W and color laboratories

•

Behrend Cine Moves

Behrend Cine Corporation, Chicago, which services the motion picture, television and radio industries with equipment and technical counsel, has moved to larger quarters in its original location at 161 East Grand The firm both distributes and rents equipment, and the new quarters will give it over 5,000 feet of added floor space.

•

Contacts Wanted

F D Wallace, Chief of the Medical Illustration Service, Veterans Administration Hospital, Lexington, Kentucky, would like to contact persons who are or have been engaged in making mo-

Continued on Page 518

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- Light intensity at 10 feet. 650 foot candles for 3400K Lamp
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 200 hours with 3200K Lamp
- Power consumption only 1250 watts (11.4 amps)
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- The NOVA TWIN weighs only 3½ lbs. and is a compact 7"x9"x6" in size
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Write for Technical Bulletin

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INDUSTRY NEWS

Continued from Page 516

tion picture films of neuropsychiatric patients in colleges, institutions, research laboratories, etc. He is interested in exchanging ideas on equipment and discussing solutions to various problems dealing with filming the mentally ill

•

Camart President Retires

The Camera Mart Inc., New York City, recently announced the retirement of its president, Hester V. Browning, widow of Irving Browning who founded the company 24 years ago New officers and members of the board of directors are Samuel "Chick" Hyman, President, Paul Meistrich, Vice President; and Anna Browning, Secretary Treasurer. Hyman has been general manager of Camera Mart for 16 years. Located at 1845 Broadway, the company specializes in sales, rental, and repair of professional motion picture, television and photographic equipment and manufactures motion picture accessories and custom-built equipment under the trade name of Camart Products

•

Giant Screen

Largest indoor theatre screen in the world has been specially made for the Cinerama Road Show in Paris by Andrew, Smith & Harkness, subsidiary of Rank Precision Industries London The screen measures 110 ft. x 36 ft and consists of verticle louvres one meter in width and made of fiberglas fabric, perforated and fireproofed There is a one-inch overlap of panels

•

Calendar of International Film and TV Events

The International Film and Television Council, an international non governmental organization, publishes an annual Calendar of International Film and Television Events Now in its third year of publication, the calendar—a booklet some 80 pages in size—lists all the important film competitions, exhibitions of films and TV events scheduled throughout the world, and also the meetings of prominent organizations related to motion pictures and television in every country

All events are calendared according to date, and there is a comprehensive index of all the member organizations of the IFTC A French version of the Calendar is also published Price per copy of either the English or French version is 50¢ (2.50 N.F., or 350 lire) from the Council's headquarters, Via Santa Susanna 17, Rome, Italy

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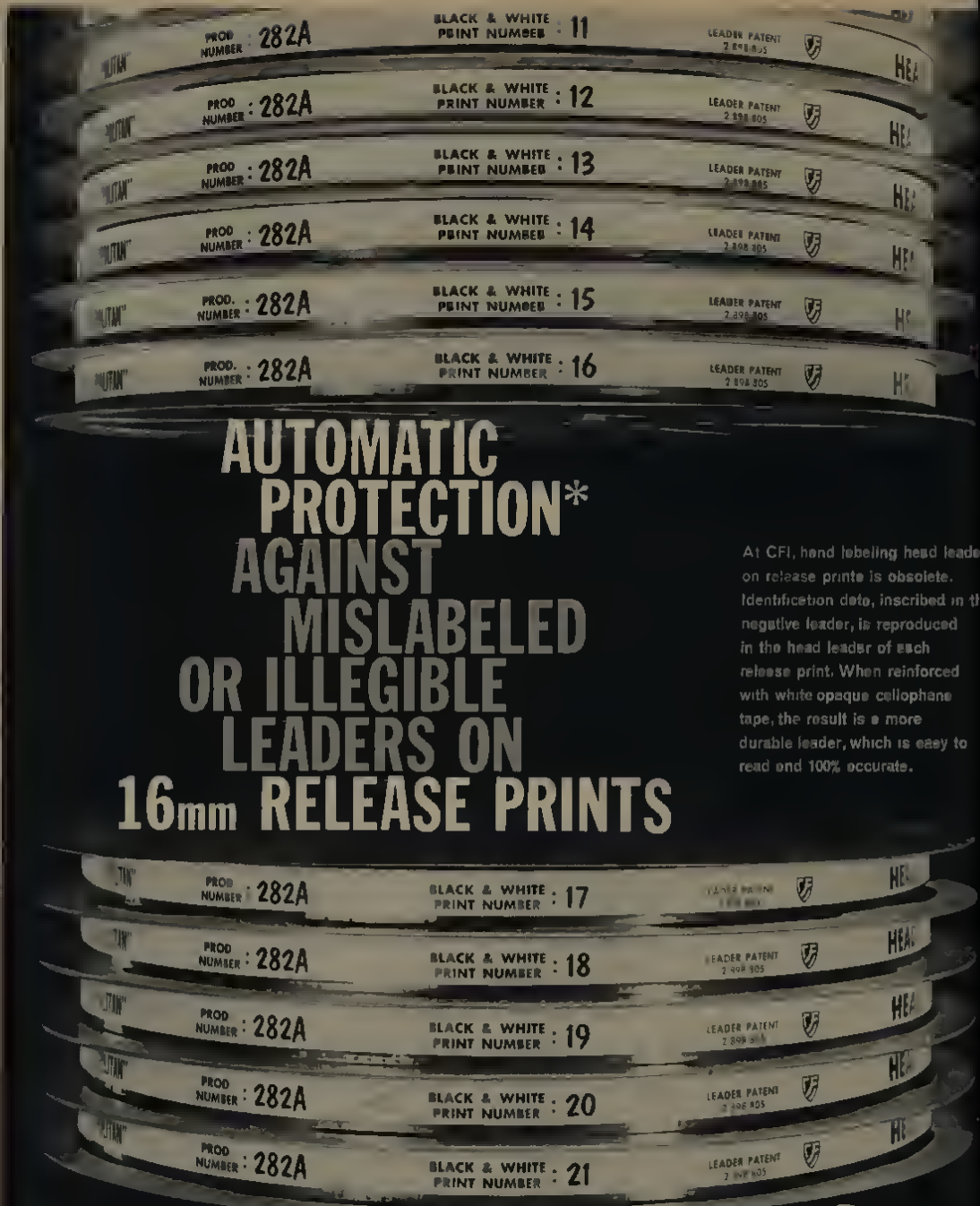
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1000' MAGAZINE FOR ARRIFLEX 35mm CAMERA
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Pro Jr Spring Head Tripod for Camera with Ball Joint CECO Model TR8V8 ...
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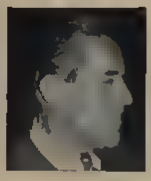
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BEHIND THE CAMERAS

WHAT THE INDUSTRY'S CAMERAMEN WERE SHOOTING LAST MONTH

By MARION GUTSHINS

NOTE: Asterisks following titles indicate television film productions.



ERNEST HALLER, ASC

Shooting "Whatever Happened to Baby Jane?" with Bette Davis and Joan Crawford at Warner Brothers Studio

AMERICAN INTERNATIONAL

FLOYD CROSBY, ASC, "The Young Racers" (Pathe color, shooting in Monte Carlo) with Mark Damon and Luana Anders. Roger Corman, producer-director.

BILTMORE STUDIOS — N.Y.

JACK PRIESTLY, "Naked City"* (Screen Gems)

BIOGRAPH STUDIOS — New York

GEORGE STOETZEL, ASC, "Car 54 Where Are You?"

CASCADE STUDIOS

HENRY FAEULICH, ASC, Commercials*.

CBS—N.Y.

CHARLES MACK, LEO ROSSI, JOHN CLEMENTS, "CBS Reports"*

COLUMBIA STUDIOS

ROBERT KRASKER, "The Running Man" (Peel Prods. Ltd., P'Vision & Color, shooting in Spain) with Laurence Harvey and Lee Remick. Carol Reed, producer-director

CHRISTOPHER CHALLIS, "The Victors" (Highroad Prod., P'Vision, shooting in England) with Vincent Edwards and Christine Kaufmann. Carl Foreman, producer-director

JACK MARTA, IRVING LIPPMAN, "Route 66"*.

CHARLES WELBORN, "Empire"*.

RICHARD RAWLINGS, "Higgins"*

FRED GATELY, ASC, "Hazel"*.

GERT ANDERSEN, ASC, "Donna Reed Show"*.

BURNETT GUFFEY, ASC, Commercials"*

ROBERT BRONNER, ASC, Commercials"*.

TAYLOR BYAR, Commercials"*.

ALAN HUME, "The Iron Maiden" (GHW Prod., shooting in England) with Michael Craig and Anne Helm. Gerald Thomas, director.

HAL MOHR, ASC, "The Man from the Diners' Club" (Dena-Ampersand Prod.) with Danny Kaye and Cara Williams. Frank Tashlin, director

GORDON AVIL, ASC, "Mr. Smith Goes to Washington"*.

GERT ANDERSEN, ASC.; ROBERT WYCKOFF, "Dennis the Menace."

JOSEPH BIROC, ASC, "Bye Bye Birdie" (P'Vision, Eastman color) with Janet Leigh and Dick Van Dyke. George Sidney, director.

FRED YOUNG, "Lawrence of Arabia" (Super P'Vision; Eastman color; Horizon Pictures (GB), Columbia release, shooting in Spain) with Alec Guinness and Anthony Quinn. David Lean, director

DESILU—Cahuenga Studio

ROBERT DeGRASSE, ASC, "The Danny Thomas Show"* "Dick VanDyke Show"*.

MALAY GERTSMAN, ASC, "I'm Dickens—He's Fenster"*

HENRY CRONJAGER, "The Joey Bishop Show"*.

STO HICKOX, ASC, "The Andy Griffith Show"*

DESILU—Culver City

LOTHROP WORTH, ASC, "The Real McCoy's"*

CHARLES STRAUMER, "The Untouchables"*.

DESILU—Gower

GLEN MacWILLIAMS, ASC, "Fair Exchange"*.

MAURY GERTSMAN, ASC, "The Lucy Show"*

TED VOIGHTLANDER, "Ben Casey"*

EDWARD FITZGERALD, ASC, "Lassie"*

ROBERT PLANCK, ASC, "My Three Sons"*



WILFRID CLINE ASC

Directing the photography of "Saints and Sinners" TV film series at Republic Studios, Hollywood

WALT DISNEY PRODUCTIONS

WILLIAM SNYDER, ASC, "Summer Magic" (Technicolor) with Hayley Mills and Burl Ives. James Neilson, director

GUNTHER ANEAS, "The Miracle of the White Stallions" (shooting in Vienna) with Robert Taylor and Eddie Albert. Arthur Hiller, director

FILMWAYS — MGM

TOM TUTWILER, ASC, "Shell's Wonderful World of Golf"*

FILMWAYS—New York

MORRIS HARTZBAND, "The Defenders"* (CBS) Boris Segal and Buzz Kulick, directors.

FOX WESTERN AVENUE

JAMES VAN TREES, ASC, "Dobie Gillis"*.

GENERAL SERVICE STUDIOS

LESTER SHORR, ASC, "The Beverly Hillbillies"*.

GOLDWYN STUDIOS

NORBERT BRODINE, ASC, "The New Loretta Young Show"*.

INDEPENDENT

TED McCORD, ASC, CONRAD HALL, "Stoney Burke"* (Daystar).

[illegible] MIDWALL "Felicia" (Association Pictures, shooting in Puerto Rico)

[illegible]YNE RESCHER, ASC, "Identical Twins" (Nuel Productions, shooting in Conn.) Biome Hill, director.

SOL NEGRIN, MIKE ZINGALE, EDDIE HUGHES, AL TAFFET, "Candid Camera"*

GAYNE RESCHER, ASC, "Oral Roberts Series"* (Religious Films)

RICHARD MILLER, "One Touch of the Lady" (Anthe Prods., N.Y.) with Louise Sorel and Paul Richards. William Herman, director.

JACK HILDYARD, "55 Days at Peking" (Samuel Bronston Prod., Super Technirama 70 & Technicolor, shooting in Spain) with Charleston Heston and Ava Gardner. Nicholas Ray, director

ELLIS CARTER, ASC, "The Horla" (Admiral Pictures, UA release) with Vincent Price and Nancy Kovack. Reginald LeBorg, director

WALTER LASSELAY, "Tom Jones" (UA release; Eastman color, shooting in England) with Albert Finney and Susannah York. Tony Richardson, producer-director

J. BURGI CONTNER ASC, "Light Fantastic" (Seneca Prods., shooting in New York) with Dolores McDougal and Barry Bartle. Robert McCarty, director.

DON MALKAMES, ASC, "The Terrible Truant" (Barbro Prods., shooting in New York) with Lee Grant

DANIEL L. FAPP, ASC, "The Great Escape" (Mirisch Alpha Prod., UA release, P'Vision & Color, shooting in Munich) with Steve McQueen and James Garner. John Sturges, director.

KEYWEST STUDIOS

FRED WEST, ASC, (Family Films) Series of Religious pictures

La BREA STUDIOS

ROBERT HAGEA "Perry Mason"*.

M-G-M STUDIOS

MILTON KRASNER, ASC., "The Courtship of Eddie's Father" (Euterpe Prod., C'Scope & Metrocolor) with Glenn Ford, Shirley Jones and Roberta Sherwood. Vincente Minnelli, director

PHILIP LATHROP, ASC, "Dame with a Halo" (Vadnay Wilhelm Prod.) with Barbara Luna and El Fostorito. Boris Sagal, director

ROBERT PITTACK, ASC "Twilight Zone"*

ARTHUR ARLING, ASC, Commercials"*

CHARLES VAN ENGER, ASC, Commercials*.

ROGER FELLOUS, "Two are Guilty" (Franco Italianne Prods., Dirlyscope, shooting in Paris) with Anthony Perkins and Jean-Claude Brialy. Andre Cayatte, director

HASKNESS SMITH, "Dr. Kildare"*.

DALE DEVEAMAN, "The Eleventh Hour"*

WILLIAM SPENCER, "Sam Benedict"*.

ROBERT HAUSER, "Combat"*.

Continued on Page 570



TOM TUTWILER, ASC

Has circled world three times during current assignment shooting Shell Oil Co.'s "Wonderful World of Golf" TV series

Troubled by out-of-focus pictures?

Troubled by emulsion pile-up in your camera gate?

Troubled by distracting camera noise when shooting subjects who should not be distracted from what they are doing?

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WHAT'S NEW

IN EQUIPMENT, ACCESSORIES, SERVICES



Portable Photo Light

General Electric Co., Nela Park, Cleveland 12, Ohio, announces its new lightweight battery powered Cinema Light. Heart of new unit is a powerful nickel cadmium re-chargeable battery pack. Each charge takes about 60 minutes, lasts a minimum of six minutes. A special lamp eliminates spill light loss, concentrates illumination in a moderate beam, ample for both wide angle and telephoto shots. Lamp has 3-hour rated life, is mounted in built in double reflector and is completely sealed. Entire unit, including lamp holder, cord, battery case and carrying strap weighs 8½ lbs.

Also available are two accessory lamps for the unit, one for normal lenses, the other for telephoto shots up to 60 feet. List price is about $125.00.



Zoom For Arriflax

Arriflex Corp. of America, 257 Park Avenue South, New York 10, N. Y., announces a new zoom lens for the Arriflex 16—the Angenieux Model 120—which zooms from 12mm to 120mm focal length, is rated f/2.2 to f/22, and focuses from 5 ft. to infinity. Field angles range from 56° to 6°. Weighing 1 lb., 14 ounces, lens is supplied with 2-piece adapter that takes series 9 filters and serves as sunshade. List price is about $820.00.

Pathe 16mm Camera

Pathe Products, Inc., 9 Pleasant St., Providence 6, R. I., has been appointed sole U. S. distributor of the Pathe Webo M 16mm reflex camera. Equipped with a 25mm f/1.4 Cinor lens, it features continuous reflex viewing through the lens, eliminating parallax problems and permitting accurate focusing. An external 400-ft. magazine provides more than 11-minutes of filming at 16 fps. Electric motor drive is powered by 24-v wet cell, rechargeable battery. A governor controlled spring motor is integral with the camera and will transport up to 22 feet of film for each winding.

Variable shutter is adjustable from 180° to fully closed and is provided with audible signal when fully-closed position is reached in making a fade or dissolve. List price is around $530.00.



Rubylite Clamp-on Unit

Photomart, 228 So. Franklin St., Tampa 2, Fla., announces its Rubylite Clamp on portable movie light for operation from any standard 12-volt automobile battery. The 250-watt bulb provides illumination of 3400° K. Unit is ideally suited to photographic assignments that call for photography of subjects within an automobile or for shooting from car, either stationary or moving. List price complete is $49.50.

F&B Sound Library

Florman & Babb, Inc., 68 West 45th St., New York 36, N.Y., has been ap-

Continued on Page 527



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Federal Aviation Agency, Washington, D C American Foundation for the Study of Man, N Y , N Y , Armour Research Foundation Chicago Ill Bartlett Research Inc , Detroit, Michigan, Ordnance Research Laboratory, University Park Pennsylvania Rockefeller Institute, New York N Y ; Bell Telephone Labs , Murray Hill, New Jersey, Brookhaven Nat'l Labs Upton, New York, Oak Ridge National Lab , Oak Ridge Tenn Union Carbide Nuclear Co Oak Ridge, Tenn Argonne National Labs , Idaho Falls, Idaho ■ CHURCHES & RELIGIOUS CONGREGATIONS Baptist Foreign Mission Board, Richmond, Virginia, Missions Televised, Inc , Burbank, California, Protestant Radio & TV Center Atlanta Georgia, Reorganized Church of Jesus Christ of L D S Independence, Mo , United Prasbyterian Board of Nat'l Missions New York N Y ■ SCHOOLS COLLEGES & UNIVERSITIES University of California, Barkley, California, Los Angeles State College Foundations Los Angeles Calif , California Inst of Technology Jet Propulsion Lab Pasadena, California, Yale University New Haven, Conn University of Miami Radio, TV & Film Department, Coral Gables Florida, University of Georgia, Athens, Georgia, University of Chicago Chicago, Illinois, Purdue University, Lafayette Indiana Iowa State University, Iowa, Kansas University, Kansas City, Kansas Johns Hopkins University, Baltimore, Md , University of Maryland, College Park, Maryland, Boston University, Boston, Mass , Harvard University, Boston Mass , Massachusetts Institute of Technology Lexington Mass , University of Michigan Ann Arbor, Michigan, Rutgers University, New Brunswick, New Jersey, Princeton University, Princeton, New Jersey New York State University Brooklyn New York, Rensselaer Polytechnic Inst , Troy New York Ohio State University, Columbus, Ohio, University of Texas Houston Texas University of Virginia Charlottesville, Virginia ■ AERONAUTICS & SPACE American Airlines, Flushing New York Bendix Aviation Corp Eclipse Pioneer Division Teterboro, New Jersey, Convair, San Diego, California, Douglas Aircraft Co , Santa Monica, California, Goodyear Aircraft Co Akron, Ohio Grumman Aircraft Corp , Bethpage, New York, Kaman Aircraft Co , Bloomfield, Conn , Lockheed Aircraft Corp Marietta Georgia, North American Aviation, Columbus, Ohio McConnell Aircraft, St Louis Missouri Pan American World Airways San Francisco, California, Republic Aviation Corp , Farmingdale, L I , Trans World Airlines, Kansas City Missouri, United Air Lines, San Francisco California, Aerojet Corp of America, Sacramento, California Raytheon Company, Bedford, Mass ■ COMMUNICATIONS CBS News, Motion Picture Productions New York New York, DuMont Television Network, New York, New York, National Broadcasting Co , New York, New York; Natural Science TV Project, Drumlin Farm South Lincoln, Mass , TV Spot, Cedar Rapids, Iowa, Westinghouse Electric Corp , Photo & TV Service, Pittsburgh, Pa , Movietone News, New York, New York Time Inc , New York, New York, National Geographic Society Washington, D C , British Commonwealth Int'l Newsfilm Agency New York, New York The Curtis Publishing Co Philadelphia, Pa Life Photo Labs , New York, New York ■ STATE AND LOCAL AGENCIES Chicago Park Dist Chicago, Illinois, Colorado Dept. of Highways, Denver Colorado, Northern Indiana Public Service, Hammond, Indiana; Kanosha Public Museum, Kenosha Wisconsin, Michigan State Highway Dept , Lansing, Michigan, New York Police Dept , New York, N Y ; New York State Department of Commerca, Albany, New York, Ohio Dept of Highways Columbus, Ohio Texas State Department of Health, Austin Texas, Commonwealth of Virginia, State Board of Education Richmond, Virginia Massachusetts Audubon Society, South Lincoln Mass National Wildlife Federation Washington, D C ■ INDUSTRY Allstate Insurance Company Skokie Illinois, American Car & Foundry Industries, Berwick, Pennsylvania, American Cyanamid Company, Bound Brook, New Jersey American Machine & Foundry Company, Springdale Conn , American Motors, Detroit, Michigan, Armstrong Cork Company, Lancaster, Pa , Chrysler Corporation, Detroit, Michigan, Corning Glass Corning New York Dow Corning Corporation Midland, Michigan, E I du Pont de Nemours, Wilmington, Delaware, The Firestone Tire & Rubber Company, Akron Ohio Ford Motor Company, Dearborn, Michigan, General Electric Co , Syracuse, New York, General Motors Corp , Detroit, Michigan, I B M, Oswego New York, International Harvester Co , Chicago, Illinois; 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National Institute of Health, Bethesda, Maryland, N Y Bellevue Medical Center Dept of Ophthalmology, New York, N Y , New York Eye & Ear Infirmary, New York, N Y ; St Joseph Hospital Orange California, Stanford Medical Center, Palo Alto, California, U S Public Health Service, Communicable Disease Center, Atlanta, Georgia Smith, Kline & French, Philadelphia, Pa , Harvard University Medical School, Boston, Mass , N Y University Medical Center, New York, New York ■ FILM PRODUCERS Marvin Becker Films, San Francisco, California Borden Productions, Concord, Massechusetts, Bray Studios Inc , New York, N Y ; Calvin Productions, Kansas City, Missouri Campus Film Productions, New York, N Y ; Candid Camera Co , New York, N Y ; Capital Film Service East Lansing, Michigan, The Carson Co , New York N Y , Cavalcade Productions, Chicago, Illinois, Chicago Film Studios, Chicago Illinois, Coleman Productions, New York, N Y , Columbia Picture Corp , Hollywood, California, Coronet Instructional Films, Chicago, Illinois, Craven Film Corporation, New York, N Y , Walt Disney Productions, Burbank, California, Douglas Productions Inc , Chicago, Illinois, Elliot, Unger & Elliot, New York, N Y , Filmways, Inc , New York, New York, Fiore Films Jersey City New Jersey, Rex Fleming Productions Santa Barbara, California; 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WHAT'S NEW

Continued from Page 524

pointed exclusive U S distributor of the famous Masque library of sound effect records. F&B maintains large library of music and sound effects records for use of film makers, including Standard Radio, Speedy-Q, Gennett, Musifex, and E M L. Descriptive catalog is available on request.



Portable Processing Machine

A low-cost portable processing machine that will process 200 feet of 16mm black & white film in less than one hour has been introduced by Superior Bulk Film Co., 442 N. Wells Street, Chicago 10, Illinois. The L&F Portable Cine Processor is fully automatic, daylight operating and requires no special plumbing installation or attachments. The all-metal processor can be loaded and operated in broad daylight eliminating the need of a darkroom. Weighing but 55 pounds, it can be used anywhere and is especially useful for "on location" reversal processing jobs. A carrying handle insures easy portability.

The unit contains ten stainless steel solution tanks that require less than 64 ounces of solution for the complete processing operation. Tanks can be removed, drained and refilled in less than 5 minutes. The film is uniformly dried by a continuous flow of warm air. An automatic micro switch stops the machine after the film is processed.

The unit measures 32 inches long, 24 inches high and 9 inches deep, and operates on any conventional 110 AC outlet. List price is $675.00.

TV Camera Tester

Photo Research Corp., Hollywood, Calif., announces development of a new precision instrument for TV camera alignment and sensitivity testing. The unit attaches to the lens mount of any TV camera, and checks it for opto-mechanical alignment and calibration, and eliminates the variables present when external test-patterns are used. In addition, full utilization of the scanning area of the Vidicon or Image Orthicon tube can be realized, resulting in increased resolution and sensitivity for the complete system. Various types of test patterns on special slides are inserted into the unit, which accurately aligns and focuses them onto the camera tube. Internal light level and color temperature for the test pattern is adjustable and accurately reproducible. All standard SMPTE and EIA black-and-white and color test patterns are available, and special patterns can be provided. Complete technical data is available from Photo Research Corp., 837 N. Cahuenga Blvd., Hollywood 38, Calif.



Colortran Lamp Housing

ColorTran Industries, Burbank, Calif., announces a new lightweight housing for its R-60 1000-watt lamps. Designated the "Super-60", housing is of all steel construction with ventilating perforations for increased lamp life, and incorporates a specially designed flare shield. An improvement of the popular ColorTran "Super Kicker," the "Super-60" maintains the feature of light weight, but is extremely sturdy to withstand hard use. When used with an R-60 lamp it produces 490 foot-candles of illumination in a beam 7-ft in diameter at 10 feet from the lamp, at 3450° Kelvin.

Compatible with all ColorTran systems, the "Super-60" accepts all "Super-Kicker" accessories. Additional features include a 30-foot 3-wire grounded line cord with in-the-line switch and an insulated handle.

The housing weighs 7 lbs. without lamp, and measures 8⅞" by 14¾". List price is $39.90.

3-Lens Spotlight

The Molenser is a novel spotlight by Mole-Richardson Co. that features a 3-lens system: 2 stationary and 1 focusing. It uses standard 1000-w or

Continued on Next Page



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WHAT'S NEW

Continued from Preceding Page

2000-w motion picture globes and utilizes an iris and/or matt to control spot size. Net weight is 43 lbs; length 39 inches List price of basic unit is $325.00 Accessories are extra Data sheet is available by writing the company at 937 No Sycamore, Hollywood 38, Calif

Sonocolor Sound Striper

The Sonocolor Model SCF2 magnetic sound striping machines are designed to apply magnetic striping to moving picture films of all sizes at rates of 1800 to 3000 feet per hour. Changeover time from one width film to another is simply done and requires about 5 minutes time Machine will apply full coating, single or double multiple in one operation Uniform thickness and quality of track is assured through micrometer adjustment devices Unit requires less than 11 square feet of floor space and but a single operator. List price is $8,995, F.O.B New York. Distributor is S.O.S Photo Cine Optics, Inc., 602 West 52nd St, New York 19, N Y. and 6331 Hollywood Blvd. Hollywood 28, California

Correction

Announcement in this column in our June issue about the Oxberry Series 1500 optical printer was a publication error, which resulted from a misfiling of the manufacturer's data sheets. The intent of Animation Equipment Corporation, manufacturers of Oxberry equipment, was for *American Cinematographer* to announce an item of equipment which the company believes to be the fastest operating optical printer on the market. This machine employs both an electro-mechanical drive and the new Oxberry Model 20 camera having interchangeable 35mm/16mm movements and automatic fade and dissolve with a range of 8 to 12 frames

The series 1500 printer described in June, Animation Equipment informs us, has been discontinued, but that a new improved model to be known as 1500-C is in the works and will be announced in detail shortly.

AC's editors regret any inconvenience caused Animation Equipment Company or the many readers who responded to our June announcement.

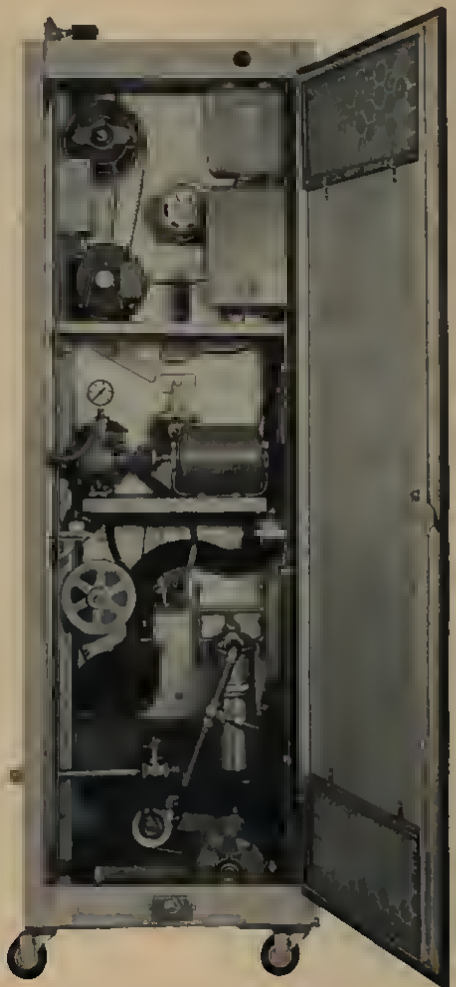
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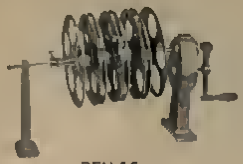
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REU 16
Rewind with Universal Joint & End Support



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Differential Rewind to handle 4 reels



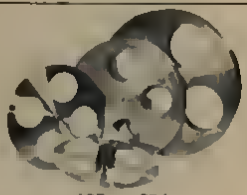
NRU 31
Negative Rewind unit



NRU 2
Negative Rewind unit



PR 1A
Power Rewind



ASR or SRA
Aluminum Split Reels



Synchronizers





MTR 1
Magnetic Tape Attachment



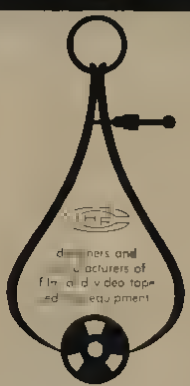
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35mm, 300 mil Magnetic Recording Film



TS 1
35mm Non Magnetic Tape Splicer



AFS 35
Automatic Film Splicer



HOLLYWOOD FILM COMPANY

REELS / CANS / CASES



FS 816
8 16mm Hot Splicer



FSC 1
16 35mm Hot Splicer



ENM 16
16mm Edge Numbering Machine

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Q & A

Technical Questions and Answers

Q.—*How can I photograph an aerial image, using a slide projector and titling stand, to make good quality titles? I don't care for backgrounds projected on a ground glass because of the excessive grain of the glass.*—A. G. Leonard, Michigan.

A.—Instead of using the coarser ground glass, insert three pieces of finely frosted acetate sheet between two thin panels of glass—optical glass, if possible — and project your subject matter thereon. Place titles in front when you project. Your local artists' supply house can probably furnish the thin acetate sheets.

Q.—*I wish to use my Cine Special camera for stop-motion photography of blossoms opening from bud to full flower. Would you kindly recommend a suitable and inexpensive stop-motion camera motor and intervalometer for such work?* — R.P., New York, N.Y.

A.—You needn't look far. We are pleased to refer you to three sources of such equipment located right in your city: Camera Equipment Company, Inc., S.O.S. Photo-Cine-Optics, Inc., and National Cine Equipment, Inc. The addresses and possibly the respective telephone numbers may be found in the display advertising of each company in this issue. To locate ads quickly refer to Index To Advertisers on the last page.

Q.—*For some extensive shooting planned for the coming months, I am concerned with the selection of the proper filters to use. Most shooting will be outdoors on DuPont 16mm Type 936-A fine grain Superior 2 negative. Desired photographic results are to be best obtainable: overall pleasing contrast between clear blue sky and scattered, fleecy-white clouds and perhaps fairly overcast sky with predominantly dark storm or rain clouds. What filters should be used under each condition to accent the cloud effects? I presently have the following filters: Aero 1 and Aero 2, 12, 15, 21, 23-A, 25-A, 29-F, 56, 3N5, 5N5, 25, ND, and 100 ND.* — W.D.McF., Greenville, Ohio.

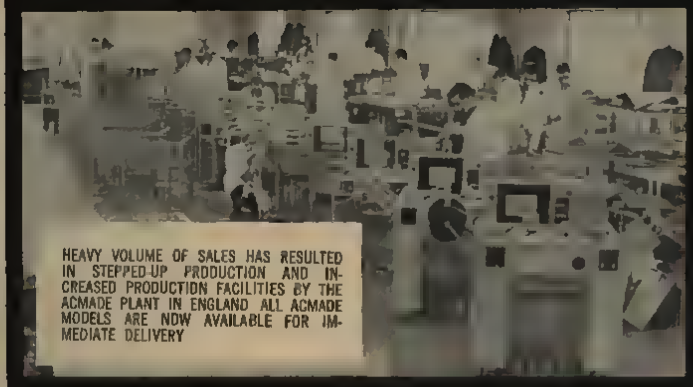
A.—Since your aim is to secure "overall pleasing contrast" between a clear blue sky and scattered, fleecy-white clouds, either your Aero 1 or Aero 2 filter should give you the desired results. If you want extreme contrast between sky and clouds—with the sky almost black and the clouds fleecy white — use a red filter, such as the Wratten 25 or 29. Keep in mind, however, that heavy filters such as the reds, should be used only to over-correct for dramatic or special effects.

The effect of either orange or red filters for darkening the sky depends upon the degree of blueness of the sky. A misty or slightly hazy sky will not photograph (with a filter) as dark as will a clear, bright sky. An overcast sky is darkened very little by use of a filter.

Q.—*For exterior filming of close-ups of people who are back-lighted by the sun and front-lighted by reflectors or artificial booster light, which is the correct method*

Continued on Page 534

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QUESTIONS & ANSWERS

Continued from Page 532

of exposure calculations: (a) a reflected light reading of subject's face, or (b) an incident light reading of the reflectors or lights taken from position of subject's face? — E.R.D., Wheeling, West Va.

A.—Use your reflected light meter here, and take reading close to subject's face, but without causing shadows of hand holding meter or the meter to fall on subject. You will thus measure the total effective photographic light *falling upon subject*, including the backlight which also will fall proportionately on the hemisphere light collector of the meter and thus be included in the total illumination evaluated by the meter.

Q.—*I have a scene scheduled for a color picture which requires inclusion of a television set with a color TV program in progress. Production is in 35mm color negative. What methods are necessary to create the described effect?*

Also, scenes I have shot of sports car races which were photographed from cockpit of the various cars is very unstable. What suggestions can you give for filming racing scenes of this kind with satisfaction? — H.W.V., Freeport, Grand Bahama Island.

A.—For a Hollywood major production, the effect of an action picture on a television set would be produced by "matting-in" the image by means of one of the traveling matte processes, which is probably the only way that you can satisfactorily accomplish it, too. However, if you can so revise your script so that the shot of the TV set with the live-action color program *only* appears in closeup in the film frame, it is likely that you can obtain a fair color image of the program material directly off the TV tube. You may have to make several takes, altering your exposure, and choose the best from the final print results.

Answering your second question, use of a gyro on your camera might tend to minimize some of the bumpy results that usually accompany shooting from a fast-moving car. Inquire of Camera Equipment Company, Inc., New York, about the camera gyro. ■

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Filming The First Cinerama Feature

Once considered a cumbersome freak, the triple-lensed ultra-widescreen Cinerama camera proved as versatile as a Mitchell BNC in photographing tricky scenes for George Pal's "The Wonderful World of the Brothers Grimm."

By HERB A. LIGHTMAN

NEVER IN THE HISTORY of motion pictures has a camera experienced such varied adventure as did the fabulous 3-lensed genius that photographed "The Wonderful World of the Brothers Grimm," first dramatic, story-telling motion picture in the Cinerama process.

It was mounted on a sled so that it would glide smoothly over the bumpy, cobble-stoned streets of Rothenberg, Germany, following actors Laurence Harvey and Karl Boehm as they took a morning constitutional for the film.

It virtually stood on its head beneath a horse-drawn coach to photograph, close up, the running hooves of a spirited team of horses as seen from actor Russ Tamblyn's point of view.

Mounted in a giant drum framework, it took a careening course down a hillside to give film audiences some idea of how the same fall down a hill affects a fallee—again, Russ Tamblyn. And it embarked upon a precarious crossing over the oldest steel bridge in Germany for some unusually spectacular footage for the picture.

Until Metro-Goldwyn-Mayer joined forces with Cinerama to produce entertainment films in this ultra-widescreen process, the Cinerama camera had been utilized mostly in photographing footage for some five feature-length travelogues. Today, the camera has come of age and takes its place along with other production cameras, although with some



CINEMATOGRAPHER Paul Vogel, ASC, (right) measures light beside actress Yvette Mimieux as Producer-director George Pal rehearses scene before the Cinerama camera at left. In background is fabulous castle of Neuschwenstein in Germany, locale of filming



THE CINERAMA camera is being prepared for a precarious dolly shot over the oldest steel bridge in Germany, for a novel scene for 'The Wonderful World of the Brothers Grimm,' first feature-length Cinerama production

slight edge over some of them.

"I enjoy working with the Cinerama camera," said Paul Vogel, ASC, who directed the photography for "The Wonderful World of the Brothers Grimm." "While Cinerama is a much more difficult process than other ultra-widescreen systems, particularly because of the limitations it introduces in the placement of lights for shooting interiors, I like Cinerama because of the freedom it gives to improvise. It keeps you right on your toes."

Before Vogel began filming "The Brothers Grimm," he had been assigned, along with several other directors of photography, to photograph segments of M-G-M's "How The West Was Won"—actually the studio's first Cinerama production from point of starting date. When the studio decided to produce "The Brothers Grimm" in the same process, Vogel was elected to shoot it and he accompanied producer George Pal to Germany to scout locations.

Earlier, he had investigated the Cinerama process, studied a number of the Cinerama travelogues from the screen, and then set out to make a series of photographic tests with the monstrous three-lensed camera. (For a more detailed description of the camera, see "And Now . . . Cinerama," Amer. Cinematographer, Nov. 1952, pp. 480; also, "Cinerama Goes Dramatic," Amer. Cinematographer, Jan. 1962, pp. 28. Briefly, it is three cameras in one in that three separate 35mm negatives run through the camera vertically past three 27mm lenses which, together, cover the system's 143°x55° aspect ratio and, singly, record one-third of the scene on a frame of each negative.—ED.)

Perhaps the major problem in Cinerama photography, Vogel explains, is lighting and composing scenes to eliminate or at least minimize the blend lines on the screen. This results because of the three separate strips of film used to record a scene; but experience has shown that certain expediencies properly employed can almost eliminate entirely the objectionable lines in Cinerama scenes. Vogel tackled the problem in some instances by planning camera set-ups so the blend lines would be obscured by carefully placed vertical shadows or by strong vertical lines in the set construction. Thus door jambs, wall panels, hanging tapestries, etc., served to camouflage any lines of demarcation between the picture segments. When shooting exteriors, trees, shaded areas, the edges of buildings, etc., served a similar purpose.

The unusual optics of the Cinerama system produced other problems in relation to the blend-lines. For example, whenever an actor crossed from one panel to another it was necessary to set all three lenses for the exact distance of the point of crossing—otherwise, strange effects resulted. If focus

Continued on Page 560

CINERAMA camera being mounted in inverted position beneath coach for unusual shot simulating the view of Russ Tamblyn (right), as he peers beneath coach during its rough-and-tumble journey bearing the Princess back to the castle



HERE the Cinerama camera is mounted on a wooden sled so that it can glide smoothly (?) over the bumpy, cobblestone streets of Rothenburg. Two sound technicians walking on either side carry microphones on "fishpole" booms





A FAMILIAR TRICK effect achieved with the traveling matte process enabling one person to play a twin role with the actors shown posing before one another. (Photo courtesy R. L. Hoult)

TRAVELING MATTE SYSTEMS

The four principal methods in use today briefly described.

THE EARLIEST REFERENCES to traveling matte processes are patent applications in the U. S. A. by F. D. Williams in 1918 for a monochrome process, and by J. A. Ball in 1927 for a Technicolor process.[1] Since then, much work has been done in other countries in developing matte processes and today, there are five dominant traveling matte systems used by the various motion picture studios here and abroad.

The basic purpose of the matte process is to achieve scenes which combine action filmed in one location with backgrounds filmed in another. The foreground action, filmed separately is combined with a background scene which has been or will be photographed elsewhere.

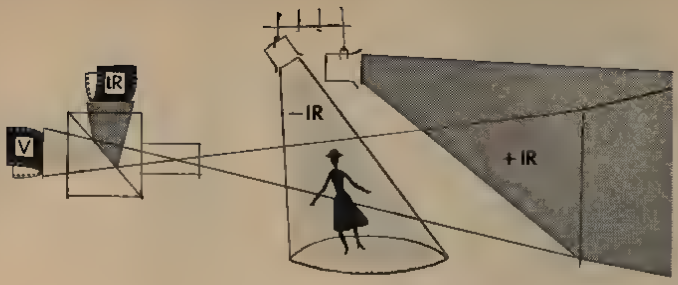
Usually the action is photographed on a sound stage before a plain backing. This is then combined with the background with the aid of the traveling matte and the optical printer.

In a simple example, a composite image such as described is made up of two separate component images. One is called the "background"; considered separately, it encompasses the full picture area. The other image is called the "foreground," and occupies only certain parts of the picture area. The composite shows the full foreground image and only those portions of the background image which are not covered by the superimposed foreground image.

The traveling matte employed in the compositing process is a series of silhouette images of an object on a strip of film, and is presented in two tones only —usually black and white. The silhouette image or matte is used during printing to mask that portion of the background image which it is intended to replace by the foreground image.[2]

In many respects the process is as simple as stated. Excellent results, however, require a cer-

BLUE SCREEN SYSTEM	Utilizes backing painted blue or illuminated with blue light, requires both male and female mattes, standard lighting and camera equipment
COLOR DIFFERENCE SYSTEM	A modification of the Blue Screen system which differs from the latter chiefly in the technique of manipulating the film separations in the optical printer. Camera, lights and film required are all standard.
ULTRAVIOLET SYSTEM	Backing is colorless and translucent and transmits ultraviolet energy. Requires special lighting, use of filters, and Technicolor or other beam-splitter camera.
INFRARED SYSTEM	Involves use of a rear-illuminated translucent screen or a black nylon velvet backing, Technicolor or other beam-splitter camera and filtered illumination.
SODIUM LAMP SYSTEM	Utilizes a special yellow backing, and Technicolor or other beam-splitter camera fitted with special prism.



INFRARED IS BUT one of the five major traveling matte processes now in general use. It is illustrated here to show the principle of the three processes which use dual film cameras. With the infrared process, subject in foreground is lit with minus infrared illumination while background is illuminated with plus infrared rays. Beam-splitter in dual-film camera at left separates and diverts the +IR and −IR images to their respective negatives.

tain degree of co-ordination between the photography of foreground and background, and the cinematographer must be acquainted with the particular limitations imposed by the matte system employed. Equally important is properly equipped and skilled personnel in the optical effects department.

Scope and Restrictions

There is considerable latitude and few restrictions in the use of the newer matte systems. The background and foreground scenes may both be in sharp focus since they are photographed separately. Color balance between background and foreground can be controlled in the printing. The scope is nearly unlimited and the backing may be as large as desired. The foreground subject matter is relatively unrestricted too, and may contain smoke, loose hair, transparent objects, liquids, rapid motion, and a complete range of colors. There are certain limitations regarding mirror-like surfaces and in most cases the camera must remain stationary. Although each of the matte systems described here is primarily concerned with color photography, all may be used for black-and-white.

The Matte

A common consideration in all matte systems is the forming of the matte. The matte, a black silhouette of the foreground action, is used to prevent exposure in the action area during the "printing in" of the background scene. The fact that this opaque silhouette is itself on film and the silhouette pattern changes its shape from frame to frame has resulted in the name "traveling matte." The formation of the matte was one of the principal difficulties of the process in the past, and each of the various systems that have evolved has been an attempt to produce a better matte or to produce a good matte with less work. The matte must be a good silhouette of adequate density and it must be of exactly the proper size and in perfect registration to prevent "outlining" or "fringing," which otherwise would spoil the illusion.

Some of the matte systems use two films and require a special camera. These are described later. The Blue Screen and the Color Difference matte systems require only a single film and may be used with any standard camera.

The Blue Screen System

The early matte systems used a blue backing. This system is generally called the "blue screen" or "blue backing" matte process. The backing may be a blue painted canvas or it may be a rear illuminated blue translucent screen. The rear illuminated screen is preferred as it results in better separations. The camera uses a single color negative exposed by both the action and the backing.

The Blue Screen system has the usual limitations inherent in the use of male and female mattes which must exactly fit each other as well as the foreground. The female is required to cover that area occupied by the blue backing. This system is characterized by the occasional occurrence of a blue fringe bordering foreground objects. The fringe is caused by lack of registration and by transparent

Continued on Page 567

EXAMPLE OF CLOSEUP made by the traveling matte process. The "squeeze" effect is due to the anamorphic lens used in the photography (the print being made directly from the 35mm negative). Photo courtesy R. L. Hoult.





JOSEPH BRUN, New York cinematographer, pre lit all location interiors for "Elodia," so he could direct the picture unhampered by any photographic or lighting problems during shooting

Doubling In Brass

A veteran cinematagrapher undertakes the dual assignment of directing and photographing "Elodia," feature-length film shat entirely in Puerta Rica.

By JOSEPH BRUN, ASC

"DOUBLING IN BRASS"—an old theatrical term once generally applied to anyone who performed dual roles or played two or more instruments alternately in the orchestra—is a fit description of the assignment I recently completed for producer Fred Pressburger. As if photographing a major production on location was not task enough, I also *directed* it.



It was my first experience as a combination director and cinematographer. "Elodia," the picture's title, which is also the name of the heroine, is a fiction yarn about sugar cane cutters and fishermen in a Central American locale. Subbing for this locale was a small village in Puerto Rico, which we selected following a lengthy search for realistic tropical backgrounds against which to stage the story action.

I had chosen two talented but relatively unknown New York actors for the principal roles: Irene Luisa Gamleil as "Elodia," and Michael Crawford. English-speaking Puerto Rican actors from local television stations and native sugar cane cutters and fishermen supplied the background cast.

I brought along to the location my operative cameraman Sol Negrin and sound recordist Addison Tice, both from New York. For the rest of my crew, I used local Puerto Rican technicians. These I personnally trained in our modern production methods, as I had promised the Puerto Rico government



ACTION!—Dramatic action chorecter izes much of the story of 'Elodia,' photographed entirely on locatien in Puerto Rice These fhree photas depict some of the actien scenes in the pic ture, the direction of which proved e rewarding experience for Joseph Brun.

I would do. Before starting production, we spent two weeks rehearsing the actors and training the young men who had been selected to serve as electricians, grips, boom men, property men, script clerk, etc. Most of our actors, incidentally, had never before worked in a motion picture and none of the technicians had ever worked on a full-scale feature production.

The period of training and rehearsals was done with all the required production equipment—lights and related accessories, grip equipment, and cameras. In some instances, scenes were actually photographed to test results of moving camera shots—although I knew in advance that not a foot of the film would be used in the picture. Nevertheless, results of these tests were screened and analyzed, and then we started production. It was a thrilling and encouraging experience to model new talents, to form and shape the techniques of eager, dedicated young people who ardently believe in our art. For they are the heart and soul of a new generation of daring film makers.

For the director-cinematographer, the most important problem he faces is: Which is most important, the photography or the direction? The director must of necessity, once shooting begins, be relieved of responsibilities inherent in the physical aspects of photography, i.e., lighting procedures, exposure, physical composition, details of camera technique, set dressing, etc. His mind must be free of all physical preoccupation in order that he may devote his time to counselling and guiding the actors and helping them interpret the film story. Thus a procedure had to be found that would afford me this absolute freedom. The answer was in totally pre-lighting the sets and utilizing a completely flexible mobile camera.

Most of the interiors for this story consisted of narrow shacks — actual native structures — and a huge sugar cane refinery. In pre-lighting these location interiors, all lighting components were hung from the ceiling. Lighting equipment was entirely eliminated from the floors in order to provide maximum camera mobility during shooting and fast changes in set-ups. By thus lighting and checking all location sets, inevitable last-minute corrections so often encountered in the studio, were virtually eliminated. Because every moving camera shot was carefully rehearsed, the actual production takes went as smoothly as any made on a studio sound stage.

When all the pre-shooting preparation had been completed, I was able to approach the task of direction with the indispensable freedom of mind I believe is so necessary. As we progressed with the production, I was Director of Photography mornings, and Screen Director in the afternoon. If nothing else, this experience revealed to me how relevant and comprehensive must be the cooperation between the two in the course of producing a film.



TYPICAL OF location interiors is this native shack, locale of important dramatic action in "Elodie." Limited floor space in such locations made lighting from overhead the general rule.

Understandably, there could be a tendency, or even a compulsion, for the Director of Photography to give full freedom to his aspirations for photographic achievement. The dual responsibility to which I was entrusted could easily have become a unique opportunity to display all my photo-

Continued on Page 572

NARROW ALUMINUM track, readily set up on any terrain, provided the means for making effective moving camera shots. Camera, at far end, is mounted on base which travels easily over the metal track.





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EASTMAN FILM



MAJOR IN-PLANT motion picture departments, like Aerojet-General's pictured above, ultimately will determine the practical use of 16mm color negative for their productions on the basis of the color definition required in the release prints

Is 16MM Color Negative The Answer?

If you have anticipated that a 16mm color negative would provide a short-cut to lower cost production of 16mm color prints, this report of one film laboratory's tests and its comparisons of print results from 16mm color negative with that of 35mm color may settle some questions for you.

SINCE PUBLISHING "What Shall We Put In The Camera?" in our December, 1961, issue, there have been some interesting developments in the use of 16mm color films. Eastman Kodak Company reluctantly placed on the market a 16mm color negative. And experiments by some 16mm professionals in utilizing the relatively new Kodachrome II color reversal film led to some interesting conclusions. All of which should be of interest to photographers and producers of 16mm industrial, in-plant, and documentary films. Concluding our December article was the statement:

> *"Sixteen millimeter negative has many excellent uses: filming sports events, recording experiments, time-and-motion study, and certain types of continuity production. It is not recommended where considerable editing will be required, A&B roll effects are wanted or many release prints must be ordered. For professional production leading to 16mm B&W release, 16mm Ektachrome or 16mm B&W reversal, or 35mm B&W negative is recommended."*

The introduction of Eastman Color 16mm negative sparked considerable interest among professional film makers, who for years had anticipated that such a film would greatly simplify the making of multiple prints of 16mm color productions, and at considerably less cost than when 35mm color negative is used in the camera.

General Film Laboratories, in Hollywood, was among the several major film laboratories in the U.S. which tested the new 16mm color negative. Early this year, General's technical staff received test rolls of the negative and began exposure and printing tests. Some of the test materials were exposed and printed under the supervision of Kodak technical men; others, in cooperation with General's local film-producer customers. The results were reported at length in the March and April issues of

Rewind, General Film's free monthly publication.

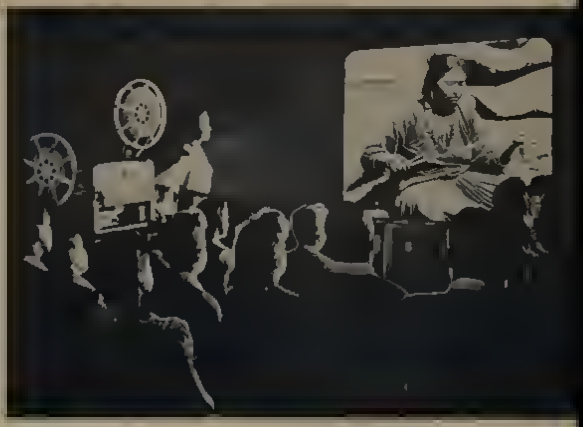
The major attraction of a 16mm color negative, the *Rewind* report points out, is cost. "It is natural to assume that if you can shoot a negative material in the camera and make prints directly from it, costs should be lower and quality should be better."

Prints made directly from the color negative should have good definition and color, says GFL's technical men, and a positive print stock is priced by the manufactrer considerably lower than reversal color stocks. But, they remind us, there is more to it than this. First there is the "ultimate quality" question: How will the 16mm results compare with 35mm?

Under the same exposure conditions, General's lab men say, 16mm negative cannot provide the same results as 35mm negative; the same relationship holds in color as in black-and-white. In the new Eastman Color stocks, both the 35mm and 16mm widths are slit from the same material. Therefore the grain size is the same in each, but the ratio of grain-to-picture is in favor of 35mm, simply because the picture taking area in the latter is approximately six times larger than in 16mm.

Given professional exposure in both sizes, the 35mm contact print, General Lab points out, will be notahly better than the 16mm color contact print. And, as is true in black-and-white, the 16mm print which evolved from 35mm negative—given professional handling — will be better than the 16mm print which evolved from the 16mm original.

Starting with this same difference between the two film sizes in the grain-to-area relationship, 16mm negative cannot go through intermediate printing stages as satisfactorily as 35mm, according to the *Rewind* report. In each case, it points out, some degradation takes place at each printing stage. But 35mm will stand more printing generations than 16mm. Thus, a 35mm color print which resulted from the camera negative/master-positive/dupe negative process will hold screen quality more successfully than a 16mm print that started from a 16mm negative and evolved through the same series of stages. This is true in 16mm black-and-white, the report emphasizes, and its bound to be true in 16mm color.



IN EDUCATIONAL FILM production, where release print requirements are substantial, 35mm color negative will continue to be the major medium used in the camera when prints are to be in 16mm color, according to a major laboratory survey.

BECAUSE MOST BUSINESS FILM production today is in color, with the release prints in 16mm, many industrial film producers have looked forward to advent of 16mm color negative, hopeful it would materially reduce print costs (Photo below, courtesy of American Wallboard Association, shows scene being filmed for its new institutional film, Time of Change.)



Report of General's Tests

In the continuation of this report (*Rewind* for April, 1962) General's technical staff revealed the results of the tests they had conducted earlier with the 16mm color negative. The very extensive tests, they said, were conducted to determine the comparative quality of the eventual picture on the screen, using the various available materials and methods and keeping an eye on comparative costs. These tests were photographed for the laboratory by three independent film production companies in the Hollywood area, and included exposures of similar subject matter on 1) 16mm Ektachrome Type 7255; 2) 16mm color negative Type 7251; and 3) 35mm color negative Type 5251. After processing, the three negatives were printed by the several possible methods.

First, according to the report, comparisons were made of the prints made direct (contact-printed) from the processed originals:

1. 16mm Kodachrome prints (5269) from 16mm Ektachrome (7255).

2. 16mm color positive prints (7358) from 16mm color negative (7251).

Continued on Page 566



POSITION OF OBJECT relative to mirror during a Schlieren test made with company's new portable equipment is demonstrated by Stan Gilmen, Supervisor of Motion Picture Services at Marquardt Corporation, Van Nuys, California. Among cameras used for recording such tests is the high speed Fastax shown in foreground

NEW VENTURES IN CINEMATOGRAPHY

How Marquardt Corporation utilizes motion picture cameras to record the results of Schlieren tests performed in the field with its new portable testing units.

By DARRIN SCOT

THE GLAMOUR THAT usually surrounds theatrical and TV film photography obscures to a great extent the useful and often vital achievements that are accomplished with motion picture cameras in other fields. The fact is, however, that more motion picture cameras and more motion picture film are being used today in non-theatrical fields than in the production of entertainment films.

Today, there is hardly an industrial organization in the U.S. doing research for or in actual production on space-age hardware that doesn't use motion picture photography in some phase of its pre-production testing and research. Very often this photographic work is highly classified, which explains the lack of publicity it receives and why the valuable scientific and technical contributions made with motion picture photography are not so generally known.

One of the notable applications of the motion picture camera is in the field of the Schlieren test—a scientific procedure which enables engineers to determine the effects of air streams on an object moving at ultra-high speed. The test method, discovered long before advent of the space age, is now a highly important adjunct to the designing and engineering of anything that is to travel in outer space.

The test takes its name from the German scientist who discovered in the late 19th Century that variations in the density of air will cause light rays to be refracted or "bent." Objects travelling through the earth's atmosphere at high speeds are subjected to variations in air density and to the resultant shock waves which apply fluctuating pressures to all exposed surfaces of the object. In the development of supersonic jet aircraft and missiles it is important to predetermine precisely what would be the effects of these varying pressures on different types of space craft when hurtling through space at speeds well beyond the sound barrier. Such pressures long



TO OBTAIN slow motion movies of ice crystal formation, two Bell & Howell 16mm cameras with 400 ft magazines were mounted on test cell by Marquardt engineers. Cameras operated at 128 fps and were boresighted prior to hot run

have been simulated in wind tunnel tests, but now motion picture photography has been made a part of the Schlieren test procedure to provide visual records for detailed study.

The in-plant motion picture department of the Marquardt Corporation of Van Nuys, California, producers of supersonic propulsion systems, is credited with developing a lightweight, portable unit for conducting the critical Schlieren test in the field.

In Schlieren testing, parallel rays of light formed by a complex of lenses and mirrors are projected through a minute slot located at one end of a wind tunnel. At the far end of the tunnel a "block" is positioned to hold back most of this light beam, so that an image picked up on a ground-glass-and-lens system mounted in front of the block appears as a slender silhouette surrounded by a thin line of light. A model of the aircraft or missile being tested is mounted within the tunnel. When it is subjected to a shock wave or pressure that changes the density of the air surrounding it, the light beam bends slightly. A more dense compression of air causes the beam to bend down so that it appears fainter. An evacuated area bends the light up, making it appear brighter. With the Marquardt port-

Continued on Page 552

NOT ALL THE filming done by Marquardt's motion picture unit is technical. Like other in-plant units, it is often called upon to produce progress reports on film also training and public relations films



"Oh, Yes — The Titles"

Too often an after-thought, the titles of a picture should receive as much attention and planning as any other phase of the production.

THERE ARE 16MM FILM producers who bring their latest film to the laboratory for final services, and spend days meticulously going over every detail of editing, narration, music, etc., to arrive at the best possible result in the finished product. This is good, and they always turn out a professional job—but they blow the whole bit on the way out the door when they turn and say, "Oh, by the way, on the first and second scenes give me a couple of double-print titles. You know, like the show title on the first scene and the client's name on the second, then credit the cameraman on the last scene just before the end title."

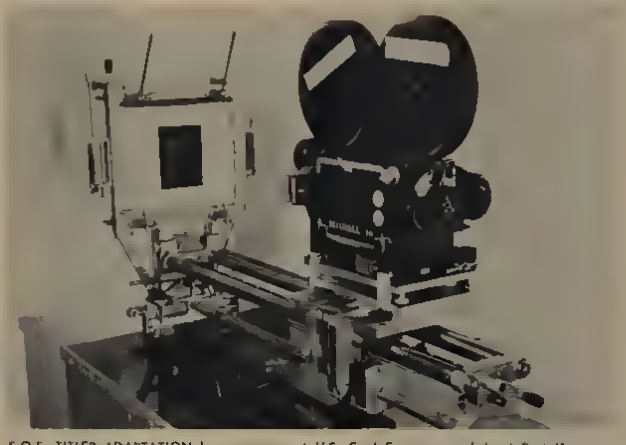
Then, there's the other type who comes to the lab and spends about two days on such things as title style, type faces, backgrounds, effects, length to the exact frame, and winds up with about the most elaborate title specs ever seen. When the answer print is made you see why—there isn't anything to speak of between the opening and closing titles.

Extreme? Sure—but both examples have occurred in the past and will probably occur again in the future.

But—we aren't trying to pick the middle path either. As stated above, *"titles are an integral part of the motion picture and should receive just as much attention and planning as any other phase of the production."*

In many instances, the choice of titling style and its execution can actually improve and further the continuity of the entire film but not without careful pre-planning. For the most part, titling

Continued on Page 558



S O S TITLER ADAPTATION by engineers at U S Civil Engineering Lab at Port Hueneme, Calif, enabled them to mount Mitchell 16 camera on titler originally designed for cameras such as the Bolex Cine Special, E K K100, B&H Filmo and Arri 16s and 35s The top plate normally stays mounted on the Mitchell and is slipped into the adaptor assembly as required



READ ANY GOOD

THERE REMAINS A number of important books to be written on the techniques of cinematography and about motion picture film production on the professional level. A comprehensive treatise on set lighting for motion pictures, and a volume on the professional, step-by-step procedures of film production as practiced in the major film centers of the world are just two we can think of.

To date, a great many books have been written that deal generally with cinematography and other phases of making motion pictures. Almost all of these contain sufficient information to justify adding them to your technical bookshelf. Ten such books were reviewed briefly in our December, 1957, issue ("Ten Good Books of Cinematographic Knowledge," by Frederick Foster.) From among the many books that have since come to the editor's desk ten, which are considered of sufficient value to student as well as professional cinematographers and film makers, have been selected for brief description here.

Films For Television

Because television newscasts today consist substantially of filmed news events, more attention is now being paid to the quality of news film photography; skills in this field are being refined and standardized. Therefore, we have selected and recommend for reading two books that deal specifically with this comparatively new field of motion picture photography. The first is:

SO YOU'RE GONNA SHOOT NEWS-FILM. By Leo Willette. Published by Television News Directors Association. Distributed by Leo Willette, 1024 Rampart St., New Orleans, Louisiana. 6¾x10 in. 56 pages. $1.25.

Don't let the small page content of this book mislead you. If you are "gonna" (going to) shoot newsfilm, or are already doing so as an avocation, there is much down-to-earth advice and guidance in this book, written by Leo Willette, a working news cameraman for WWL-TV, New Orleans.

"The object of this book is simple," the author states in the opening chapter—"to acquaint the 'stringer,' staffer, film editor and news director with a few concepts and techniques which should produce better newsfilm."

As the book points out, not all newsfilm is good newsfilm. A frustrating percentage of filmed news stories that cross an editor's desk isn't even airworthy. Among the faults that mar TV newsreel footage or complete stories are: camera shakiness; lack of continuity—no story line; lack of editorial devices such as cutaways, etc.; over panning, and under thinking.

Willette explains how these faults can be overcome and describes the steps in terse sentences, devoid of excess verbiage so that the reader can get the gist without wading through a lot of prose.

Other chapters deal with such important topics as: Shoot The People—First! (The story is only as good as the human equation, the author points out.) Out Of Frame, Into Frame, The Match Cut; Over The Shoulder Shots, Composition, Consistent Exposure, Poop Sheet (The information furnished by the cameraman in writing along with the film, enabling the editor to piece together the words and pictures of the news footage), Scene, Sequence, or Shot?; Courtroom Shooting, Cropping In The Camera; Pitfalls and Practices in the Elements (such as rain, extremely cold weather, etc.), Wide Angle Witchcraft; Selling Your Story; How Much Film To Shoot; The Running Gag, Watch The Background; When Not To Shoot at 24 fps., The Final Shot.

A typical paragraph: "The burning down of an empty house may be good footage. But a similar blaze in which a family is forced to flee with only a handful of possessions is a human story. This also applies to an accident. Should an earth-mover topple down a steep embankment at a construction site, it is far less newsworthy than scenes showing rescue attempts toward freeing the trapped man."

And the second book in this category:

TELEVISION NEWS REPORTING. By the staff of CBS News. Published by McGraw-Hill Book Company, Inc., 330 West 42nd St., New York 36, N.Y. 6¼ X 8¼ in. 182 pages. $5.75.

Step by step, the staff of CBS News takes the reader through every phase of putting a news show on the air, giving in complete detail the techniques they have tried and proved successful under actual broadcasting conditions.

Although there is something in every chapter of this book that vitally concerns the TV newsfilm photographer, two chapters—8 and 9—are pertinent to the cameraman's role in video newsfilm production. A typical paragraph:

"A cameraman's job is not an easy one. To get the best out of a story, he must literally be all over the place to see everything that is going on, and to record it on film. When covering a flood story, for instance, there are a hundred possible ways to tell the story but only a few 'best' ways. There must be wide shots to give an idea of the breadth of the damage. These must be held long enough to allow the viewer to take it all in, but there must be subsequent closer shots of particular points of interest in the larger scene. For example, the addition of a close-up shot of water pounding against a

BOOKS LATELY . . . ?

There's nothing like outhoritotive books to supply onswers when problems ore encountered in plonning or photogrophing o motion picture. Here ore ten recommended volumes, eoch worthy of o ploce on ony film moker's bookshelf.

dike helps to give some idea of the power behind this natural disaster."

Throughout, the reader is given expert guidance in operating the newsroom, getting the story, filming the news, scripting and editing, handling equipment, solving problems of time and expense. You are shown tested *on-camera methods* covering all stages of the actual telecast, the opening and the close, the news body, weather segments, even the commercials You'll find scores of case histories from the CBS news files, plus a wealth of sample scripts, sets, and formats that are known to boost audience and sponsor appeal

Still another book dealing with films and television is:

ELECTRONIC MOTION PICTURES

By Albert Abramson Published by University of California Press, Berkeley 4, Calif. 6x9 in. 212 pages. $5.00.

This is not a new book It was first published in 1955 At that time speculation was rife that the television camera would replace the motion picture camera. While this has not happened in the intervening seven years, there is much of technical interest in the closing chapters of this book that gives the volume importance as a reference book for the motion picture cameraman and technician This is because the science of television film recording has endured to become a permanent and useful one in the business of producing material for television programming.

Abramson's study analyzes the past and future developments of the electronic camera and their possible effect on motion pictures. He purports to show the limitations of the mechanical (film) camera's performance, and explains the difference between the mechanical motion picture camera and the electronic television camera Concluding the profusely illustrated volume is a seven-page glossary of terms

Scientific Cinematography

The era of high speed aviation and space age vehicles has drawn heavily on motion picture cameras and photographic techniques. Today, more cameras and more motion picture film are used in scientific and instrumentation photography than are used in the production of entertainment films, including those for television. Reports follow on two books recently published in these fields:

ENGINEERING AND SCIENTIFIC HIGH-SPEED PHOTOGRAPHY. By William G. Hyzer. Published by The Macmillan Company, 60 Fifth Ave., New York 11, N.Y. 5½x8¼ in. 536 pages. $15.00.

This is a practical working handbook that describes, step-by step, the procedures and principles of high-speed photography. For research engineers and scientists who need photographic records of their findings, and for photographers who specialize in quantitative work, this book brings together in understandable terms information about the techniques, the potentialities, and the advantages of high speed photography for scientific uses. It is also an excellent guide for photographers contemplating establishing an independent utility to render engineering and scientific motion picture services commercially to companies not so equipped.

This working reference includes information on procedures for operating commercially available high-speed cameras and on techniques for recording and interpreting various phenomena—machine components, self luminous events, ballistics, explosives and oscilloscope images.

Profusely illustrated, the book contains halftones and line drawings showing instruments, cameras, techniques and results, plus many tables, curves and nomographs It covers all phases of scientific photography related to high-speed recording, the important subject of data reduction, and step-by-step instructions for the analysis of photographic records

Author Hyzer is a consultant research engineer in the fields of photo instrumentation and general scientific investigation to nationally known industrial organizations. "There is as yet," he states, "no profession that truly can he called 'photo-instrumentation engineering' Nevertheless, the ever-increasing importance of photography as a scientific and technological tool will eventually result in more widespread recognition of this field until it assumes full status as an engineering profession"

PROCEEDINGS OF THE FIFTH INTERNATIONAL CONGRESS ON HIGH-SPEED PHOTOGRAPHY. Edited by J S. Courtney-Pratt, B E., Sc. D. Cantab. of Bell Telephone Laboratories Published by Society of Motion Picture and Television Engineers, 55 West 42nd St, New York 36, N.Y. 8½x11¼ in 584 pages. $30 00.

This impressive volume contains 103 technical papers. 7 summaries and 5 abstracts arranged under the following subject heads: Flash Light Sources. Photographic Materials and Optical Components, Electronic Shutters! Flash X-Ray, Unusual Techniques,

Continued on Next Page

READ ANY GOOD BOOKS LATELY?

Continued from Preceding Page

Stereo; Spectra and Micro Studies. Streak Cameras, Multiple Frame Cameras. Applications: Ballistics, Applications: Industry and Biology, Values and Problems in High-speed Photography: Survey Papers; Systems for Control and Analysis and Flow Dynamics All papers are in English, with abstracts in French and German.

"There is no doubt about the importance of high-speed photography," the author states in the Foreword. "The first step in any scientific investigation is to find out what is happening and how it is happening, for without this we cannot go on to find out why it is happening. Photography is probably the most valuable means we have for this purpose."

Cinematography

The ensuing reports are on books directly related to narrative motion picture production:

HOW TO SHOOT A MOVIE STORY. By Arthur L. Gaskill and David A. Englander. Morgan & Morgan, Inc. Publishers, New York, N. Y. 5x7 in 135 pages Paperback. $1.95 Hard cover, $3.50

"How To Shoot A Movie Story" based on the authors' popular title, "The Technique of Pictorial Continuity," is brought up to date with the latest material, including work with zoom lenses, and trucking and dolly shots. It is set in brand new easy-to-read type, in a convenient new page size and is full illustrated with step by step photographs and line drawings. Picture sequences illustrate such techniques as The Re-establishing Shot Matching Action, and Cut-in and Cut-away shots. Although originally written as a guide for serious amateur movie makers, the techniques set forth in this book are based on established professional practices and apply equally to the photography and production of features, TV films, commercials documentaries, and industrial films

THE ABC's OF LIGHTING. By Lou Jacobs, Jr Published by American Photographic Book Publishing Co. Inc, New York 23. N. Y. 5x8 in. 117 pages. $2.50.

Although written primarily for users of still cameras, such as the popular reflex and 35mm, there is much in this book that can benefit the student cinematographer in-plant cameraman, and others to whom lighting interiors for cinematography is still a complex undertaking

Profusely illustrated with lighting examples, there are 11 chapters that deal with lighting elements and techniques ranging from exposure meter readings, lighting with floods, available light and lighting for special effects.

"There are lighting tricks" says the author, "but probably no more lighting secrets Everything seems to have been tried before, and probably published, and you may have studied the results. Yet the fundamentals remain secrets to you until they are tested and adapted to your own needs and techniques . . . Lighting practice, though complex has a built-in simplicity which comes from experience. The 'tricks' are merely shortcuts one discovers, often through mistakes"

EARNING MONEY WITH YOUR 8/16 MM MOVIE CAMERA By Karl Barleben Published by the Chilton Company 56th and Chestnut Sts Philadelphia 39, Pa 7¾x5 in 127 pages. $1.95 (paperback edition)

Today's professional 16mm cameramen are, in many cases, former amateur movie makers who realized an ambition to shoot movies for money. This book is devoted to presenting ideas and some basic suggestions for those who would become free-lance motion picture cameramen Although the book's title suggests it is aimed at the amateur movie maker, it is actually written with the advanced 16mm photographer in mind, and is dedicated to helping him achieve his goal as a professional The author has concentrated primarily on the business and idea aspects of free lancing: the photographic technicalities, he reminds, can be found in other books Eight chapters deal with such topics as free lancing, surveying the field, 8mm turns pro, requirements for free-lancing, following through, equipment requirements, accessories, camera care, and film

THEORY OF FILM. By Siegfried Kracauer. Published by Oxford University Press, 417 Fifth Avenue, New York 16, N Y 6x9 in. 364 pages $10.00

If you missed this rather serious study of the motion picture film when it was first published in 1960, you may still wish to add it to your bookshelf Its approach is introspective, it is not a how-to do-it treatise on film making.

"My book differs from most writings in the field," the author explains in the Preface, "in that it is a *material* aesthetics, not a formal one It is concerned with content It rests upon the assumption that film (the motion picture. — ED.) is essentially an extension of photography and therefore shares with this medium a marked affinity for the visible world around us. Films come into their own when they record and reveal physical reality"

Sixteen chapters deal with such topics as historical survey and systematic considerations of photography; basic concepts; history and fantasy, remarks on the actor; dialogue and sound; functions of music, effects on the spectator, the experimental film; the film of fact; the theatrical story;

FOUNT OF FACTS

WE RE PREJUDICED, of course, but we believe that no list of book recommendations relating to motion picture photography and production techniques is complete without the inclusion of the American Cinematographer Manual, published by the American Society of Cinematographers, Hollywood Now in its second printing, the Manual contains information vital to every working motion picture cameraman Concise ready-reference charts give quick answers to problems relating to camera panning speeds, shutter opening compensation, camera speed compensation, lens stop conversion for shooting at different speeds, exposure compensation for various fps, filter factors and data, etc, etc

Eleven sections, conveniently indexed for quickly locating needed information, cover such topics as cameras, films, lenses, exposure, filters, color, lighting, background processes, television and sound, special techniques, and electrical data for lighting interior sets

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—EDITOR

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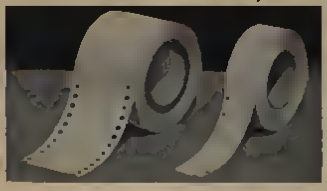
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matters of content, and film in our time.

THE TECHNIQUE OF TELEVISION PRODUCTION. By Gerald Millerson. Published by Hastings House Publishers, Inc., 151 East 50th St., New York 22, N. Y. 5½x8½ in. 416 pages $10.00

Although this book concerns the techniques of TV production rather than film production, it is recommended for its profuse illustrations, which relate as much to motion picture photography as they do to TV. Few books devoted to film production have been so well illustrated. Techniques which originated with film and have been adopted by television are made clear at a glance by accompanying line drawings. The chapter on Camera Control will prove highly informative to the student of cinema, and the line drawings augmenting this chapter will be found highly educational.

If you still feel in the dark about many motion picture techniques after reading books which aimed to explain them textually, then you will find Gerald Millerson's volume informative and a valuable reference work. ■

NEW VENTURES

Continued from Page 547

able testing unit, the fluctuation of the parallel light beam is accurately recorded, for later study by engineers, by a motion picture camera set up in front of the light block at the far end of the tunnel.

Heretofore the conventional set-ups used in the performance of the Schlieren test have involved permanent, bulky installations of expensive equipment weighing several thousand pounds. Requiring, also, a complex two mirror system, such setups were too large and cumbersome to move about to locations distant from the main plant.

Since the Marquardt film unit does much of its work in the field and at far-flung company divisions, there was an urgent need for a compact, inexpensive Schlieren testing "kit" that could be easily moved about where needed. Stan Gilman, Supervisor of Motion Picture Services for Marquardt, recalled that back in 1951 when he was affiliated with the Lockheed film unit, cameraman Bob Drury designed such a kit and built a model that could be taken out into the desert for rocket-launching tests.

Gilman borrowed the prototype from Lockheed and his group set about adapting it to Marquardt's needs, adding modifications and improvements of their own. Later, they built three additional models. The newest version of the system involves two basic components: the first is a lens barrel containing a pin-point light source, a prism and a series of color filters. By means of proper adapters, the lens barrel can be rigidly fixed to the axis of any lens, still or motion picture. The second component is a metal housing containing a 10 inch Pyrex, front-surfaced spherical mirror. This weighs about 50 lbs. and has a handle for easy portability, also adjustments for steering the reflected light image directly into the lens barrel, zeroing on the axis of the lens. A tripod supports the mirror housing.

To line up the components for use, the recording motion picture camera is set at the radius of curvature as near axis as possible. The light source is turned on and the mirror reflects an image of the filament of the lamp projected in a one-to one magnification. This image can be picked up on a card held at the lens barrel so that a technician can adjust the mirror to direct the beam squarely into the lens barrel.

In actual testing the components are set up before the test section observation ports of the wind tunnel enclosing the test model. The camera photographs in color a visualization of the flow of shock patterns and other disturbances across the model. The mirror has a radius of curvature of 14.5 feet, and the light emanating from the pin point source is projected into the prism and down the axis of the lens to the mirror. It is reflected back, striking the edge of the prism, which acts as a knife edge in producing the Schlieren effect. A bracket holds a band of five color filters. The light is first directed toward the green filter which represents the center of the spectrum. At either side are red filters, and adjacent to these are two blue filters. The further the light is refracted off of the

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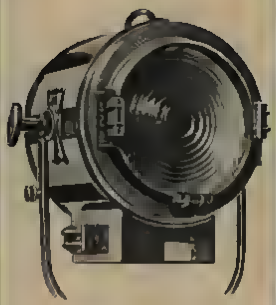
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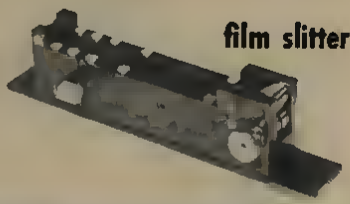
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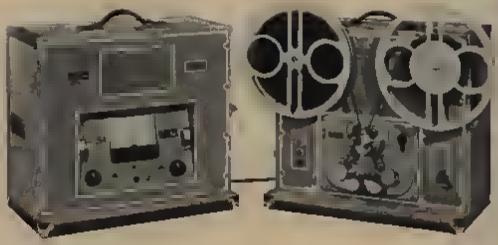
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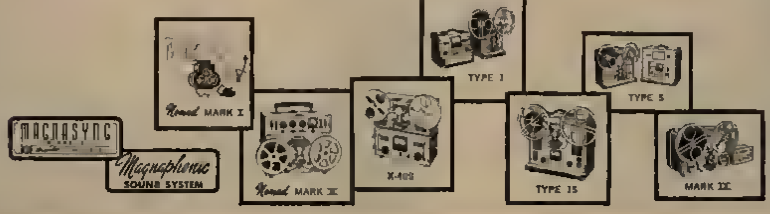
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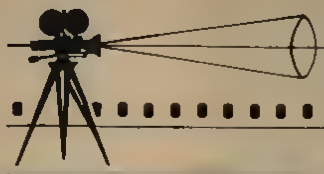
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being widely used in the company's test labs in Van Nuys and also in test facilities at Saugus, California The fact that it can be used with any still or motion picture camera affords a wide range of application, especially when combined with high-speed cameras operating up to 8,000 frames per second. Instead of the involved light source needed in the conventional system, it utilizes an ordinary inexpensive sound reproduction lamp of the kind used in sound projectors.

Adapting conventional motion picture cameras to record highly technical instrumentation tests has become something of a science for Marquardt's motion picture unit An interesting camera adaptation presently being tested by company engineers is designed to provide a dependable means of studying the rate and quality of ice crystal formation on air and space craft. The proposed tests required enlarging the subject under study by 50 diameters This has been accomplished by mounting a microscope on a Mitchell camera in accurate alignment with the lens. Initial tests indicate the required degree of magnification has been achieved and that the system is sufficiently flexible to permit use of lenses on the camera of almost any focal length, although only 63mm and 150mm Ektars have been used in the tests.

One of the unit's primary functions, like that of in-plant units in other industrial organizations holding government contracts, is to fulfill the contractual requirement of providing periodic filmed progress reports. Some of the unclassified footage produced for



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these reports is also utilized in some of the company's public relations, training, and employee orientation films and television films. Much of the interesting footage that has been cleared by government security for release to the general public has been shown on television programs such as Dr. Martin Kline's "Adventure Tomorrow."

The Marquardt film unit is not primarily a production unit of the type found in some companies, where a great deal of staging is done. Most film is shot for testing purposes and much of it is classified. The unit is often given the requirements for a test which virtually defies photography, and it must then devise a means of shooting it. When, as often happens, the test footage is also utilized in a more comprehensive type of film support scenes are scripted and photographed to fill in the subject. It has now become standard operating procedure when a crew is out on a test assignment, to also shoot some footage in newsreel style to meet such contingencies.

The Marquardt motion picture unit owns two Mitchell 16's, one Arriflex 16 and fifteen Bell & Howell Filmos of various models, most of which are geared to 128 frames per second for instrumentation work. These latter cameras can be mounted into blockhouse panels so they can be operated remotely by engineers without cameramen having to be present. Special camera equipment—such as Fastax, Wollensak and Traid high speed cameras—are rented as needed, since it would be uneconomical to inventory a long list of cameras that are used rather infrequently.

The unit's motion picture lighting equipment is limited to Colortrans because of the limited industrial circuits at the plant. These have worked out very satisfactorily since subject matter in most in-plant assignments does not cover a wide area.

All of the company's sound recording and animation requirements are taken care of by outside specialists in these fields. Stan Gilman, head of the company's film unit, believes it impractical for the company to do the whole operation of a film production. "The need for animation is so infrequent and its sound requirements so varied, that it's far simpler to turn this work over to independents in these respective fields," he says.

"Our film unit's unique skills," says Gilman, "are cinematography and editing, which we feel are the basic elements of any film production. We couldn't afford to maintain on a year-around basis, sound technicians of the calibre that are available to us through the sound recording companies. We therefore prefer to leave the sound end of a production to the professional specialist. It is the same with narrators and animators." ■

OH, YES—THE TITLES!

Continued from Page 547

theory is just that—theory. As such it is subject to as much interpretation as there are producers making films. Here are some of the basics:

1. Titles should be brief, simple and well composed. They should be compatible with the subject matter of the picture and so designed and worded as to attract audience attention and arouse further interest in the film.

2. Films usually receive better circulation when the main title describes the subject matter in the film. Films with trick titles or "catch lines" for titles are often passed over by teachers and program directors.

3. Motion picture titles primarily serve to identify the films, establish the sponsor and credit the producer.

4. Titles may be a part of the film itself, or detached, (even as remotely as a label on the can or leader).

5. Titles may appear as an opening to the film story, they may appear in the body of the film after a situation has been developed, or they may be a part of the conclusion.

6. Sub titles can be used to separate and/or identify sequences, or they may be used to augment narration. In general, they should be of the same style as other title material, but de-emphasized.

7. An end title may be used to identify the conclusion of an open end type film. If a film story is properly developed, a "The End" title is considered superfluous for most non theatrical film productions. Some sponsors and producers prefer the end of the film for the listing of their credits or signature.

8. Titles should "fill the screen." Avoid insufficient margins and too crowded copy. Allow for projector crop.

9. Colors should be compatible, but lettering should contrast with the background, so as to "read well." (Light lettering on dark B.G., etc.).

10. Lettering should be bold as possible, avoiding small, overly-condensed type faces. Lettering should be lined up properly on the screen.

11. Backgrounds should be simple, "busy" artwork and distracting action in live backgrounds should be avoided. Live backgrounds for double-printing titles should have complete saturation with no "hot" or white areas and be exposed preferably on the dark side. Scenes which contain light subject matter, "hot" or white highlights, should not be used for double printing backgrounds.

12. Plan titles in advance!

Motion picture titles may be classified into two broad types: 1) artwork background and 2) live background.

Artwork titles may be just simple lettered cards either hand-lettered or printed, or they may feature a painted background and incorporate camera effects such as pop-on, wipe-on, zoom or full animation.

Live action titles combine either hand-painted or printed lettering with live action backgrounds.

Where titles are to be backed up by live action backgrounds, the lettering should be white on a black background. This can be printed in the laboratory on duplicating stock, or double-exposed in the camera on the original film. When titles are shot separately to be double-printed in the laboratory, it is essential that the black background be as dense as possible. It should consist of black velvet, felt, or black paper having a soft matt finish for minimum reflection. For 16mm black-and-white double-printed titles, Eastman Kodak's 7302 Fine Grain Positive in the camera exposed at an index of 2, will produce good results when processed for maximum density.

Where colored lettering is desired, the live action background can be photographed through glass with the titles printed on a clear acetate sheet mounted on the glass. It is also possible to rear-project a previously exposed and processed background scene, using a sync projector, and photographing the titles in the same manner. This method is somewhat less desirable as it results in a second-generation background scene, with corresponding

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FIRST CINERAMA FEATURE

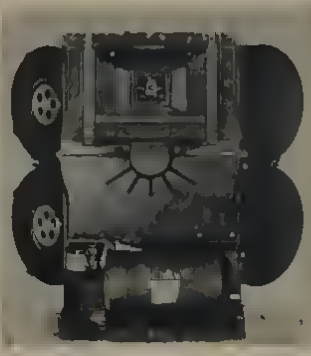
Continued from Page 537

was set for a point in front of the actor crossing the blend line, on the screen he would be seen in double-image—that is, part of his image would be repeated in one panel as he was entering the next. If, on the other hand, focus was set well behind the actor as he crossed the line, he would disappear partially from one panel as he entered the other. Critical focus, therefore, was an absolute necessity. In addition, action had to be plotted so that actors would cross through blend-lines but never stop in an area where the lines would bisect them and become obvious.

Another problem is that the three camera lenses are not mounted so as to shoot straight forward, as in single-camera photography, but are arranged so as to encompass a sharp, semi-circular sweep of composition. Thus, when two actors appear in the opposite end panels of the picture, supposedly facing each other in profile, they are actually recorded by their respective cameras in a three-quarter perspective, which makes them appear to be facing the lens. In order to overcome this effect, actors are required to "cheat" a little and look, not directly toward each other, but slightly behind or in back of each other. "Cheating" their gazes in this way, they create the illusion of looking straight at each other, although this sometimes proves rather disconcerting for them, having to play to a wall or some other inanimate object in the background.

Because of the greatly exaggerated depth perspective resulting from the use of 27 mm wide angle lenses, interior sets for "The Brothers Grimm" had to be built much smaller than those usually constructed for conventional cinematography. Otherwise, they would have appeared too large. The height of the sets also became a problem since the wide-angle lenses characteristically take in an entire background wall, plus generous areas of floor and ceiling. This meant that the sets either had to be designed with abnormally high walls or else have full ceilings. The latter alternative pertained in most cases, rendering it impossible to mount lights along the tops of the sets. The extremely wide horizontal angle of compositions also precluded use of any light units on the floor ahead of the camera.

THE CINERAMA CAMERA



Front view of Cinerama camera, as it appears with blimp removed, and showing how closely-mounted are the three 27mm lenses

This is the camera which Paul Vogel used in photographing the first feature-length Cinerama production, "The Wonderful World of the Brothers Grimm." It is essentially the same as those used in photographing Cinerama Travelogues. Three separate 35mm negatives travel through the camera past three 27mm lenses which, together, cover a field 143x55 degrees. A single rotating shutter moving in front of the lenses at a point where their lines-of-view cross, effects simultaneous exposures on each of the three films. Exposure is variable but not separately for each lens, the diaphragm controls being interlocked to insure the required uniformity.

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For these and other reasons, getting a sufficient amount of light into proper position for good photography became a major and constant problem throughout the shooting of this picture. Vogel concealed lamps behind ceiling beams, furniture and behind some actors who remained stationary during the filming of a scene. However, when the camera angle was shifted for a reverse or over-shoulder shot, the same lights had to be repositioned. In the execution of dolly shots, the problem really became acute because as the camera moved back, lights which had been well out of the camera field now came into view. It became routine procedure to solve lighting problems for the dolly shots first and then adapt the lighting of the inter-cut stationary shots to match. Vogel explains

In most cases, all lights had to be placed behind the camera, with back-lighting ruled out entirely. Vogel avoided flatly lighted results by placing most of the set lamps to one side and by using small lamps mounted on the camera blimp to provide additional fill light.

The acid test, as far as lighting problems were concerned, came during shooting of an episode called "The Dancing Princess," one of the story-

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within-a story fairy tale sequences in the film The action concerned a teenage princess who slyly slips away from the palace each night to dance the Twist till dawn with a band of gypsies in a woodland glade. In the course of the wild terpsichorean orgy that ensues, the camera follows her and her panting partner in a 360° arc all the way around the set. In lighting the stationary shots leading up to this scene, Vogel had lights concealed behind wagons, non-moving players and inanimate props When the camera on the initial take began its full sweep, however, all of these carefully hidden lights came starkly into view All the lights were then re-positioned high up in the catwalks above the huge interior-exterior set, and Vogel hoped that the angles of projection would not be too steep to allow for quality lighting. He succeeded here not only in illuminating the action to best advantage but in creating a highly atmospheric mood that changed gradually from night to dawn. In the night portion of the sequence he effectively used red firelight to simulate the glow from the campfires and torches burning in the set As dawn approached, the overall lighting was changed to a diffused delicate pink which merged with the artifically produced mists swirling about the floor of the set

Perhaps the trickiest, and in many ways, most effective piece of sustained action camerawork in the film, materialized in the sequence immediately following the gypsy dance episode. The Princess hemmed in by the usual fairy tale curfews, must get back to the palace before the cock crows or face the consequences She has a coach and-four standing by but, having stopped to dally with a handsome masked woodsman, she fails to notice the passing of time The ensuing mad dash through the forest and back to the palace is easily the wildest ride imaginable

To photograph this sequence along the tortuous dirt roads of the German countryside, the Cinerama camera, now battery operated, (shooting silent and, therefore requiring no blimp) was mounted on a camera truck rigged to pull a dummy coach. For reverse angle shots, showing the woodsman stowed away on the rear jump seat, the actual coach with horses was used, with the camera mounted on a truck following close behind

The violence of the ride up hill, down dale and through a forest made use of reflectors or booster lights impractical. The extremely wide horizontal angle, however, produced an interesting lighting phenomenon For example, within the same shot, the "A" panel (left) of the scene would be cross-lighted, the "B" panel (center) would be front-lighted and the "C" panel (right) would be back-lighted



CINERAMA crew examines squirrel cage in which bulky, three-lensed Cinerama camera was mounted to make sequence of shots for "Wonderful World of the Brothers Grimm" In a careening course down a hillside, it pictured topsy turvey scene as seen by Russ Tamblyn tumbling downhill

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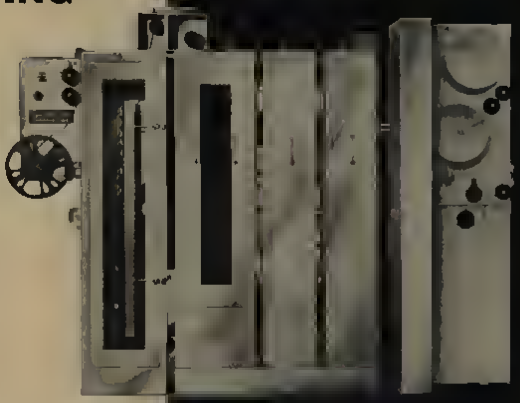
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There was also a constant struggle to keep the sun out of the composition on these rapidly moving shots. In the morning it would be threatening the "A" panel; by late afternoon it would be peeking into the "C" panel. When the coach made a turn, which was often, it was anybody's guess from which angle the sun would assail the lens.

At one point the woodsman, overwhelmed by boyish curiosity, leans over head first and looks between the wheels of the plunging coach. At this point, the script called for the camera to cut to an upside down point-of-view shot. To achieve this, the camera was mounted inverted under the coach and focused on the galloping horses' hoofs.

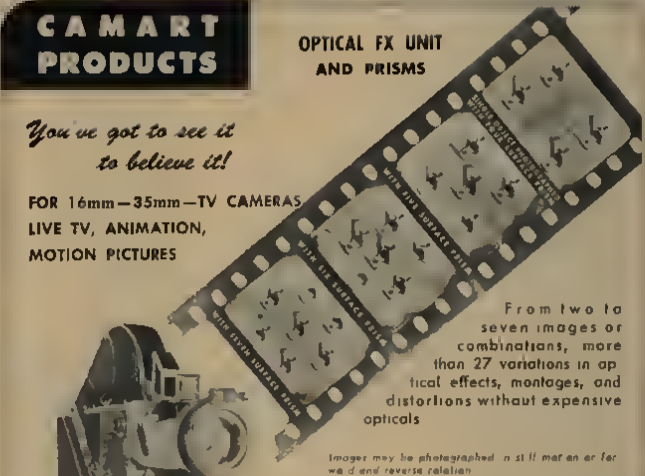
At another point in the wild ride the acrobatic woodsman is jounced off the coach and sent rolling down a steep hill. To create a subjective, point-of-view shot showing how things looked to him as he tumbled down hill, the battery-operated Cinerama camera was mounted inside a large steel drum framework and actually rolled down the hill with the camera running. The camera was allowed to roll free all the way down the hill to a point at the bottom where it would naturally stop.

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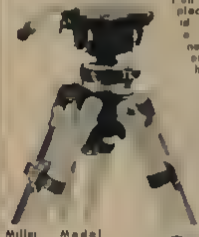
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The effect on the screen is overwhelming.

As the woodsman attempts to catch up with the coach after his fall, he crosses a narrow bridge over a deep gorge (actually, the country's oldest steel bridge, built in 1866) which proved so rickety that the film crew was warned not to permit more than four people on it at once. However as shooting progressed, there were often ten or twelve technicians on the bridge at one time, in addition to the heavy equipment. Here floor boards were removed from the bridge so the woodsman could enact a fall and provide an excuse for spectacular point of view shots made by dangling the Cinerama camera on ropes from the bridge above the rocky gorge.

"The Wonderful World of the Brothers Grimm" owes much of its visual production value to the lush scenic grandeur of location sequences filmed in sections of Europe never before covered by the globe trotting Cinerama cameras—namely Bavaria and the Rhine River Valley.

The once-quaint Medieval town of Kassel actual birthplace of the famous story-telling brothers, had been bombed during World War II and later rebuilt as a modern city of glass and steel, but to such extent that it could not be used as the 1812 locale of the story. What was needed to "double" this location was a town from the past, seemingly untouched by modern development and progress; a town with cobble stone streets, slant-roof buildings and a town square. Rothenburg ob der Tauber, a tiny Medieval Francoman city straight from the story books, turned out to be the ideal locale.

It was in Rothenburg that much of the biographical story was filmed. Near the town fairy-tale castles such as Weikersheim and Neuschwanstein were made available. Permission was obtained to shoot inside as well as outside the castle walls, the first time such concession was made to a film company.

Part of Rothenburg's charm is its cobblestone streets. However, it was correctly surmised that any attempt to make moving camera shots on such rough streets using dollies, cranes or conventional wheeled vehicles would be unsuccessful. So a special camera "sled" was used which had been designed and tested earlier on a cobblestone street of the M G M backlot. The actual working model, roughly 6x8 feet in size, was built in Germany. It consisted of a solid platform, strong enough to hold 800 lbs. of blimped Cinerama camera, plus technicians, and was mounted on steel runners to which a durable plastic had been fused. It was impossible to use a motor driven power source to drive the sled because the motor noise would be picked up on the sound track, so manpower was pressed into service.

The resultant "dolly" shots filmed up and down the winding, plunging uneven cobblestone streets of Rothenburg are incredibly smooth, relatively free of vibration and are most effective in following the action.

The film abounds in authentic props and vehicles, all of which add great authenticity to the picture's mood. For example, the first train ever to run in Germany (an elaborately colorful, delicately wrought, smoke-puffing chain of ornate coaches on rails) was borrowed from the Nuremberg Museum and put into action for a sequence showing the brothers traveling to Berlin.

The boat which carries them down the Rhine was actually the oldest steam-propelled side wheeler on the river. It was pressed into service just three

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days before it was scheduled to be returned to a place of honor in the famous ship museum at Mainz. Booster lights powered by generators were used aboard the boat to light dialogue sequences. A problem encountered here was how to exclude from camera view the railroad trains, automobiles, etc., that continually moved along both banks of the river. Attractive canopies carefully mounted on both sides of the boat served effectively to block out these anachronisms.

To reproduce an old port on the Rhine for a landing sequence, M-G-M-Cinerama crews constructed a special boat-dock near the village of Bad Ems. Scenes supposedly enacted in Rhineberg were actually shot in the quaint port of Oberspay, where a wine festival in progress at the time and featuring the natives in colorful period costumes, added much to the scenic effect. All of the houses in the town were of the authentic period except one, a large modern structure located on a prominent corner. This held up production only long enough for the company's construction crew to camouflage the house with a false front of the period, and paint it carefully to match the aged aspect of adjoining houses.

Interiors of the cathedral, supposedly located in the same town, were actually filmed in the famous Regensburg Cathedral, where other problems were encountered. The fact that the walls were white was a troublesome factor in the color photography. Additionally, the interiors to be filmed were vast and Vogel was limited as to the amount of light he could use, to prevent possible damage to the interior decor. There was some apprehension, too, that the ancient flagstone floor might give way under the weight of the camera and lighting equipment. So the power generators were placed in the village square and six "Brute" arcs were used inside to light the cathedral.

For Paul Vogel, the experience of filming the first released dramatic feature in Cinerama is one more in the long list of technical challenges he has met during more than 30 years as a director of photography. Winner of the Academy Oscar for photography of "Battleground" (1949), he previously achieved another singular photographic accomplishment when he filmed Robert Montgomery's "Lady in the Lake," the only completely subjective full-length feature ever made in which the camera functioned throughout as the eye of the protagonist. More recently, he photographed George Pal's extremely intricate and visually spectacular production of H. G. Welles' "The Time Machine." ■

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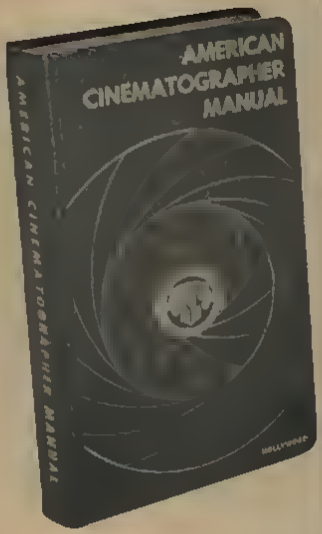
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IS 16MM COLOR NEGATIVE THE ANSWER?

Continued from Page 545

3 35mm color positive print (5385) from 35mm color negative (5251).

The 35mm color positive print (No 3 above) was most pleasing, possessing excellent color, sharpness, highlights, and shadow detail The 16mm color positive (No 2 above) as might be expected, had good color, clean highlights detail in the shadows, but—as could also he expected—more evidence of graininess and a loss of definition compared to the 35mm. The color reversal print also showed good color—more pastel than in the prints from negative and acceptable definition

In this comparison of prints made direct from the camera original, it was a toss up between the 16mm positive and the 16mm reversal Among those who have seen the test prints, some preferred the reversal, some the positive

However, interesting as this set of test prints might be, they were but a partial test. Since there is a definite limitation to making release prints from the edited original film—particularly negative material — the next question concerned print quality by what we may call the accepted, practical stages of duplication So, the next group of tests included the following 16mm color prints

1- From 35mm color negative (5251) a direct reduction 16mm color positive print

2- From 35mm camera negative (5251) a 35mm color master positive intermediate (5253) from which was reduced a 16mm color dupe negative intermediate on 35/32mm stock (5253) and a 16mm color positive contact printed from it.

3 From the 16mm color negative (7251) a 16mm color master positive intermediate (7253) and from the master positive a 16mm dupe negative intermediate (7251)—from which was printed the 16mm color positive print

4 From 16mm Ektachrome (7255) a 16mm color internegative (7270) from which the 16mm color positive was printed.

The first two named above are already accepted methods for producing 16mm color prints from 35mm color negative. The fourth is also the presently accepted method for making 16mm color positive release prints. starting from Ektachrome. And the third method listed would be the normal way to provide intermediates, in order to make it unnecessary to use the valuable valuable 16mm color negative in release printing.

The best screen quality resulted from reducing the 16mm print directly from the 35mm camera negative (No 1 above), closely followed by the 16mm contact print from reduction 35/32mm dupe negative (No 2 above)

Contrast was picked up by both the dupe negative positive print (No 3 above) and the internegative positive print (No. 4 above), perhaps somewhat more in the former There was also an objectionable increase in graininess in the print by the 16mm negative - 16mm-positive-16mm-dupe-negative route, although color, clean highlights and shadow detail held up quite well. The print through internegative was comparatively free of grain, and had better definition

On the basis of the tests they made plus others they subsequently examined, General Film Laboratories believes it safe to conclude:

1. The best 16mm color print will continue to be the one reduced from 35mm color negative

2 The practical choice for 16mm multiple release in color from 16mm originals will be the positive print from 16mm color internegative—from Ektachrome.

3 The 16mm color positive print made directly from 16mm color negative (7251) is a commercially acceptable product, but with practical limitation on the number of prints which can be made prior to negative deterioration

4. The 16mm color positive print from the 16mm color negative master -positive-dupe-negative method is not commercially acceptable because of excessive contrast and grain

On the basis of the factors known today, the 16mm camera color negative has essentially the same advantages and disadvantages as does the 16mm camera black-and white negative for 16mm B/W release printing Field experience has resulted in reversal films being used rather than the existing 16mm B/W camera negative films The latest report is that the 16mm color negative will he sold on a special order basis

only not as a regular order 16mm stock However, it will be available.

For 16mm color productions, the producer who demands the ultimate in quality, and has the necessary budget, will shoot 35mm. The man who has a smaller budget for color, and a sizeable print order, will shoot 16mm Ektachrome The producer with a low budget, who requires but a few color prints, and will accept something less than top quality will shoot 16mm negative, the *Rewind* report concludes

Next month "Duplicating Kodachrome II" ■

TRAVELING MATTES

Continued from Page 539

objects, out of focus objects, or objects in rapid motion in the scene When possible, such objects should be avoided By persistent and unusal skill studio optical effects departments have made this system work over a period of many years and with generally satisfactory results

The principal advantages of the Blue Screen process lie in the use of standard lighting and camera equipment Thus any camera may be used without modification Standard studio lights may be used to illuminate the foreground action and the backing It is possible and convenient to extend the backing onto the floor or drape it over a platform, thus permitting the actors' feet and other objects to be included in the scene. There are no patent restrictions on the use of this system

The Color Difference Matte System

A modification of the blue screen process, this system retains all the blue screen system advantages while overcoming most of the disadvantages. It differs from the blue backing system in the technique of manipulating the film separations in the optical effects department and also by the relative lack of restrictions on the set

The Color Difference technique causes the blue backing to reproduce as a black backing and under these conditions all limitations concerning transparent objects, smoke, rapid motion, etc , are removed It is still necessary to avoid the use of spectrally pure objects in the foreground, although pastel blues and bluish looking colors are acceptable. To be able to matte

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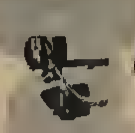
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transparent objects, it is essential to minimize the green exposure from the backing. Here the rear illuminated translucent backing is superior to the painted backing.

Compared to the Blue Screen system, the Color Difference system has the minor disadvantage of requiring additional steps in the optical department. Its major advantages lie in the relative ease of obtaining good results, in the freedom from restrictions on the set, and in the absence of blue fringing. The blue canvas backing may be set up quickly anywhere since this is the only special material required. The camera, lights and film required are all standard.

The Dual Film Systems

The Ultraviolet, Infrared and Sodium Traveling matte systems are "dual film" systems in which two films are used in the camera. One film photographs the action while the second film is used to form the matte.

The camera requires two films, two movements, and a prism or beam splitter to separate or divide the light so as to expose both films simultaneously. The only readily available camera that meets these requirements is the Technicolor 3-strip camera.

There is no special significance in the terms "ultraviolet," "infrared" and "sodium," other than the fact that the wave lengths of these lights are such that they do not result in exposing the color negative. (Or they can easily be prevented from so doing.) The color negative may therefore photograph the foreground action normally, receiving no exposure from the specially illuminated backing. To the color negative the backing, therefore, appears black.

The second film in the camera is the matte film, usually black-and-white. It is sensitive to the special backing illumination and thus is exposed by it. Filters in the camera prevent exposure of the matte film by other wave lengths of light. The foreground action, therefore, registers as a dark silhouette against the illuminated backing.

The principal differences between these systems lie in the choice of the backing illuminant, which in turn determines the requirements for lamps, type of backing and filters. These requirements are described as follows.

The Ultraviolet System

The U.V. system backing is colorless and translucent, similar to a process screen. However, it must be capable of transmitting ultraviolet energy. The backing is illuminated from the rear with closely spaced fluorescent tubes, which provide ultraviolet light. The standard studio lamps used for foreground lighting contain some ultraviolet which is removed by the use of filters over the lamps.

Care must be taken to keep the foreground light off the backing. The Technicolor 3-strip camera employed is equipped with a specially coated prism and filters to separate and direct the visible and ultraviolet light (or images and areas so illuminated) to the respective films.

With adequate filters a good matte is obtained. The matte image formed by the ultraviolet is slightly smaller than the foreground image. Size correction is subsequently made in the optical printer. In most cases, the ultraviolet provides a good matte. However, on occasion a transparent object may appear opaque because of low ultraviolet transmission. The ultraviolet system is patented and the patent is held by Warner Bros.

The Infrared System

This system is most generally used with a rear illuminated translucent backing and with filters over the set lamps. Another alternative, used by Universal Studios in Hollywood, employs a backing of special black nylon velvet. Although the velvet appears black it is highly reflective to infrared. The velvet backing requires front illumination and for this purpose unfiltered standard studio lamps are used. These lamps emit large amounts of infrared in addition to visible light. The velvet presents some problems in dirt collection and uniformity but these are not serious. Foreground light may spill over onto the backing without harm since the backing is black.

A Technicolor 3-strip camera with a specially coated prism is used in exposing the matte and picture films. The matte film is infrared sensitive. Since standard studio lamps provide large amounts of infrared, they are fitted with filters to prevent infrared illumination falling on the foreground. Infrared forms an oversize image on the matte negative requiring a size adjustment in the optical printing. An infrared system as described is patented (Pickley, U.S. Pat. No. 2,161,127).

The Pickley patent is avoided if the foreground lamps are used without filters, however, this incurs certain problems. The lack of these filters causes serious foreground exposure on the matte film, requiring additional work in the optical department to produce a good matte. Omitting the infrared filters on the foreground lamps thus forfeits one of the major advantages of the dual film system, as the matte film will contain unwanted exposure from the foreground. Care is required on the set to avoid dark objects or dark wardrobe having infrared reflectivity, as these objects leave a "hole" in the matte. While this is a disadvantage it may also be used to advantage by using the black velvet to block out portions of the foreground.

The Sodium Lamp System

The light emitted by Sodium vapor lamps is near the middle of the visible spectrum where lenses are designed for sharp focus. The yellow sodium light falls between green and red, and at this point Eastman color negative is relatively insensitive. A special prism mounted in the camera selectively reflects most of the sodium light to the matte film. The remaining sodium light is not of sufficient intensity to cause serious exposure of the picture negative.

The backing used for this system may be white or yellow fabric, if illuminated from the front, although a rear illuminated translucent backing has advantages with respect to spill light. A Technicolor 3-strip camera is employed to expose the two films. The development of a beam splitter and filter of unusual sharpness permits the foreground lamps to be used without filters. Care must be taken to keep the foreground illumination off the backing. The matte image formed by Sodium light is the same size as the action.

Continued on Page 571

ASC RECOMMENDATIONS

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Classified Ads

Continued from Preceding Page

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BEHIND THE CAMERAS

Continued from Page 522

PARAMOUNT STUDIOS

WILLIAM CLOTHIER 'Donovan's Reef" (John Ford Prod., Technicolor) with John Wayne and Lee Marvin John Ford producer director.

HASKELL BOGGS, ASC, WALTER CASTLE, ASC, "Bonanza"*

CLAUDE RENOIR, "Paris When it Sizzles" (Color, shooting in Paris) with William Holden and Audrey Hepburn Richard Quine, director.

FRANK PHILLIPS, "Have Gun Will Travel"*.

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JACK HORTON, "Sport Shorts"*

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EMMET BERGHOLZ 'Death Valley Days"*

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WILLIAM STEINER, ASC, Two Tickets to Paris' (Harry Romm—Columbia Pictures) with Gary Crosby and Joey Dee Greg Garrison, director

REVUE STUDIOS

JOHN RUSSELL ASC, BENJAMIN KLINE, ASC, 'Alfred Hitchcock Hour"*,

ELLIS THACKERY, ASC, 'Wide Country"*

WALTER STRENGE, ASC, "Wagon Train"*

BENJAMIN KLINE, ASC, "Alcoa Theatre"*.

WILLIAM MARGULIES, ASC, "McHale's Men"*

FLASHBACK TO YESTERYEAR



1925—If you were a moviegoer in the heyday of the "silents," you'll remember the country bumpkin in the straw hat—Charlie Ray. This publicity still was made during a lull in the shooting of "Some Pumpkins," which featured Ray as a timid country boy—a role he made famous Directing the picture is Jerome Storm (center) and behind the hand cranked Bell & Howell camera is cinematographer Philip Tannura, ASC Location is the western street on the back lot of Charles Ray's Hollywood studio, which later became Monogram, now is filming headquarters of Allied Artists

Tannura photographed a number of Ray's pictures before the star went into eclipse following his disastrous production of "Courtship of Miles Standish," in which he starred.

Tannura went on to better things and with the advent of sound he advanced rapidly in this new field of film entertainment. He was for many years one of Columbia Studio's ace directors of photography When television started to use films for programming and a number of TV series got underway in the various Hollywood studios, Tannura was behind the cameras on such shows as "Burns and Allen," "Jack Benny," "Man From Blackhawk," "Two Faces West," and more recently "Shannon."

[illegible] (Columbia) [illegible] Gay nor [illegible]

Russell Metty, ASC, "Imitation of Life" and the Doctor Takes a Wife" Hunter Prod (color) with Sandra Dee and Peter Fonda Harry Keller, director

Russell Harlan, ASC, "A Gathering of Eagles" with Rock Hudson and Mary Peach Delbert Mann director

Lionel Lindon, ASC, "The Virginian"*

Ray Flin, "It's a Man's World"*.

Harry Wayman "Lancelot and Guinevere" (Emblem Films Prod., PVision & Color, shooting in Yugoslavia) with Cornel Wilde and Jean Wallace Cornel Wilde, director

John Warren, ASC, "Going my Way"*

Ernest Laszlo, ASC, "It's A Mad, Mad, Mad, Mad World" (P Vision Technicolor, Stanley Kramer Prods.) with Spencer Tracy and Milton Berle Stanley Kramer, producer director

REPUBLIC STUDIOS

Wilfrid Cline, ASC, "Saints and Sinners"*

Charles Burke "McKeever and the Colonel"*.

Howard Schwartz, "The Rifleman"*

George Diskant, ASC, "Dick Powell Show"*

HAL ROACH STUDIOS

Curt Fetters "Terrified" (Bern Field Prods. for Int'l Pictures Release) with Rod Lauren and Steve Drexel Lew Landers director

TWENTIETH CENTURY-FOX

John Nickolaus, Jr., "The Young Guns of Texas" (API) with James Mitchum and Alana Ladd Maury Dexter, producer director

Sante Achilli, "The Condemned of Altona" (Titanus Carlo Ponti Prod., shooting in Germany) with Sophia Loren and Maximilian Schell Vittorio de Sica, director

Enrico Gigniti, "The Leopard" (Titanus Prod., Technicolor, Technirama; shooting in Sicily) with Burt Lancaster and Claudia Cardinale Luchino Visconti, director

WARNER BROS

Ernest Haller, ASC "What Ever Happened to Baby Jane?" (Seven Arts Associates & Aldrich Prod.) with Bette Davis and Joan Crawford Robert Aldrich, producer director

Lewis Jennings "Hawaiian Eye"*

Ralph Woolsey, ASC, Robert Hoffman, "77 Sunset Strip"*

Jack Marquette "Gallant Men"*
Carl Guthrie, ASC, "True"*

Robert Surtees, ASC, "PT 109" (P-Vision, color shooting in Florida) with Cliff Robertson and Ty Hardin Lewis Milestone, director

Mark Davis, ASC, "PT 109" Second Unit

Charles Lawton, ASC, "Spencer's Mountain" (Technicolor) with Henry Fonda and Maureen O'Hara Delmer Daves, producer-director

Harry Stradling, ASC, "Not on your Life!" (Rilgrave Ents Prod; Technicolor & P Vision shooting in Greece) with Robert Preston and Tony Randall Morton DaCosta, producer director

Harold Stine, ASC, "Be Careful How You Wish" (Technicolor) with Don Knotts and Cornie Cook Arthur Luhin and Wm Tytla, directors

ZIV-UNITED ARTISTS

Monroe Askins, "Ripcord"*.

TRAVELING MATTES

Continued from Page 568

image and therefore no size correction is required in the printing. A direct contact print of the matte negative may be used for the printing matte. Of all the matte systems, the sodium system is the most direct and requires the least work to obtain the finished composite. On this basis the Sodium system should result in the lowest cost per shot. It is questionable, however, if any operational cost difference is sufficient to warrant the replacement of an existing ultraviolet or fully filtered infrared system.

It is believed that the cost of installing a Sodium system using the inexpensive British sodium lamps is about equivalent to a fully filtered infrared or ultraviolet system.

The use in this system of a beam splitter prism of sufficient sharpness to permit unfiltered foreground lighting shows novelty over an earlier British patent. The patent is still valid in Britain and the use of this system requires payment of a nominal royalty if the product is to be shown in Britain.

Traveling matte is often compared with back projection. To a certain extent both processes have similarities, but they have at least as many differences. To compare them in detail would be a lengthy task, but in general it may be said that if the background of a scene is as important as the foreground from the story-telling aspect, then traveling matte is perferable.[1]

[1] THE FOREGOING article is based on the chapter entitled *Traveling Matte Systems* in the American Cinematographer Manual, augmented by data (1, 2, 3) from the article, *A Black & White Traveling Matte Process* by Robert L. Hoult, Amer. Cinematographer for October, 1959.—ED

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DOUBLING IN BRASS

Continued from Page 541

graphic talents, my theories, but the direction and possibly the whole production might suffer from excessive photographic treatment. The idyllic subject matter of "Elodia" called for freshness of approach, and yet a simplicity—almost a candor of interpretation and acting, which would have been spoiled by the intrusion of any cinema acrobatics or "new wave" rough-and-raw treatment. These would have been completely out of place. Throughout the direction of this picture my aim was for mature simplicity.

All interiors were shot on Eastman XX film and the exteriors on Plus-X. No make-up was used at any time. Because our budget would not permit the luxury of a dolly or camera crane, we utilized a comparatively new method for making moving camera shots. This is shown in one of the accompanying photos. It consisted of a narrow aluminum track about forty feet in length, supported by stout metal legs, which could be set up within fifteen minutes on any terrain. The camera was mounted on a base which slid smoothly over the tracks to effect a dolly-in or pull back shot.

For more extensive moving camera shots, we utilized the tracks and mobile equipment of a narrow gauge railway used to transport sugar cane from the fields to the refinery. The camera was mounted on the tiny "locomotive" and its smooth passage over the rails was insured by technicians shimming up in advance the low points in the track along the route of a dolly shot.

Thanks to the unquenchable enthusiasm and dedication of these native film technicians, the valuable know-how of my New York assistants along with the skillful production planning of producer Fred Pressburger and associate Tom Hollyman, the picture was completed on schedule in seven weeks.

One of the first methods that comes to mind when sky darkening is mentioned is the use of a polarizing filter. This filter polarizes skylight, and when placed over the camera lens it cuts out half the light coming from all objects and darkens relatively more areas in which light is normally polarized.

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